

PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
(D.E.I.)



# STANDARD DETAILS

SEPTEMBER/2012

**PINELLAS COUNTY DEPARTMENT OF ENVIRONMENT  
AND INFRASTRUCTURE STANDARD DETAILS**

**ROADWAY AND RELATED CONSTRUCTION:**

**1100 ENVIRONMENTAL**

- 1105: Median Soil: Composition and Depth
- 1111: Tree Protection

**1150 STORMWATER TREATMENT AND CONTROL**

**1200 DRAINAGE AND DRAINAGE STRUCTURES**

- 1250: Storm Sewer Cover
- 1255: P.C.E.D Curb Inlets (Types RC-3, 4 and 5)
- 1260: P.C.E.D. J5 & J6 Curb Inlets
- 1265: Filter Fabric Wrap and Grout at Structures
- 1281: Underdrain Inspection Manhole Type 1
- 1282: Underdrain Inspection Manhole Type 2
- 1290: Roadside Underdrain Installation
- 1291: Pavement Cuts, Excavation & Restoration

**1300 CURBS, DRIVEWAYS, PAVEMENT AND SIDEWALKS**

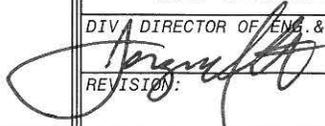
- 1305: Curb and Gutter Type A and Header Curb
- 1315: Valley Gutter and Transition
- 1340: Concrete Driveway Apron
- 1353: Sidewalks through Existing Driveways
- 1357: Guidelines for Sidewalk Alignment
- 1360: P.C.E.D. Type "A" and "B" Handicap Ramp Detail
- 1365: P.C.E.D. Trail Intersection Crossing Detail
- 1375: Dead End Street Turn-Around
- 1380 Traffic Sign Installation Into Concrete

**1400 BARRIERS, BARRICADED AND FENCES**

- 1406 Barricade with Reflectors

**1500 MISCELLANEOUS**

**PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
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STANDARD DETAILS  
INDEX SHEET 1 OF 2**

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**UTILITIES:**

**GENERAL DETAILS:**

- PCU GD 1: Trench Backfill Detail (See 1291)
- PCU GD 2: Main Clearances Detail
- PCU GD 3: Tracer Wire Layout Detail
- PCU GD 3a: Tracer Wire Installation Detail
- PCU GD 4: Valve Box/Tracer Wire Installation Detail
- PCU GD 5: Concrete Valve Box and Collar Detail
- PCU GD 6: Reverse Deadman Restraint Detail
- PCU GD 7: Bollard Detail
- PCU GD 8: Jack and Bore Under Roadway Detail
- PCU GD 9: Jack and Bore Under Railway Detail
- PCU GD 10: Fusible PVC/HDPE Pipe Connections Detail
- PCU GD 10a: Fusible PVC/HDPE Pipe Connections Detail
- PCU GD 11: Pressure Main Restrained Joint Detail
- PCU GD 12: CUL-DE-SAC-Potable Water Detail
- PCU GD 13: Typical Pressure Offset Relocation Detail
- PCU GD 14: Automatic Flushing Assembly Detail

**RECLAIM WATER DETAILS:**

- PCU RD 1: 1" Reclaimed Service Connection (Non-metered) Detail
- PCU RD 2: 1½" or 2" Reclaimed Service Connection (Non-metered) Detail
- PCU RD 3: 1½" or 2 Metered Reclaimed Water Service Detail
- PCU RD 4: Reclaimed Water Flushing Assembly Detail
- PCU RD 5: CUL-DE-SAC Layout - Reclaimed Water Detail
- PCU RD 6: 2" Offset Air Release Assembly for Reclaimed Water (Below Ground) Detail

**SANITARY SEWER DETAILS:**

- PCU SD 1: Manhole Construction Notes
- PCU SD 1a: Standard Manhole (Pre-cast) Detail
- PCU SD 1b: Inside Drop Manhole Connection Detail
- PCU SD 1c: Outside Drop Manhole Connection Detail
- PCU SD 1d: Doghouse Air Release Valve Manhole Detail
- PCU SD 2: Sewer Air Release/Air Vacuum Valve in Manhole (12" Pipe or Less) Detail
- PCU SD 3: Offset Air Release Assembly for 4"-12" and Larger Sanitary Sewer (Above Ground) Detail
- PCU SD 4: Sewer Service Connection and Clean-Out Detail
- PCU SD 5: Depth Limitations of Sanitary Sewer Pipe Detail

**WATER DETAILS:**

- PCU WD 1: Temporary Sampling Point Detail
- PCU WD 2: 2" Permanent Water Blow-Off Detail
- PCU WD 3: ¾" or 1" Potable Water Service Connection Detail
- PCU WD 4: 1½" or 2" Potable Water Service Connection Detail
- PCU WD 5: Typical Fire Hydrant Locations Detail
- PCU WD 6: Fire Hydrant Assembly Detail
- PCU WD 7: Parallel Fire Hydrant Detail
- PCU WD 8: Water Quality Sampling Detail

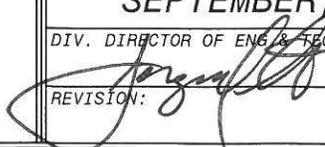
**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**STANDARD DETAILS**  
**INDEX SHEET 2 OF 2**

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**INDEX 2 OF 2**

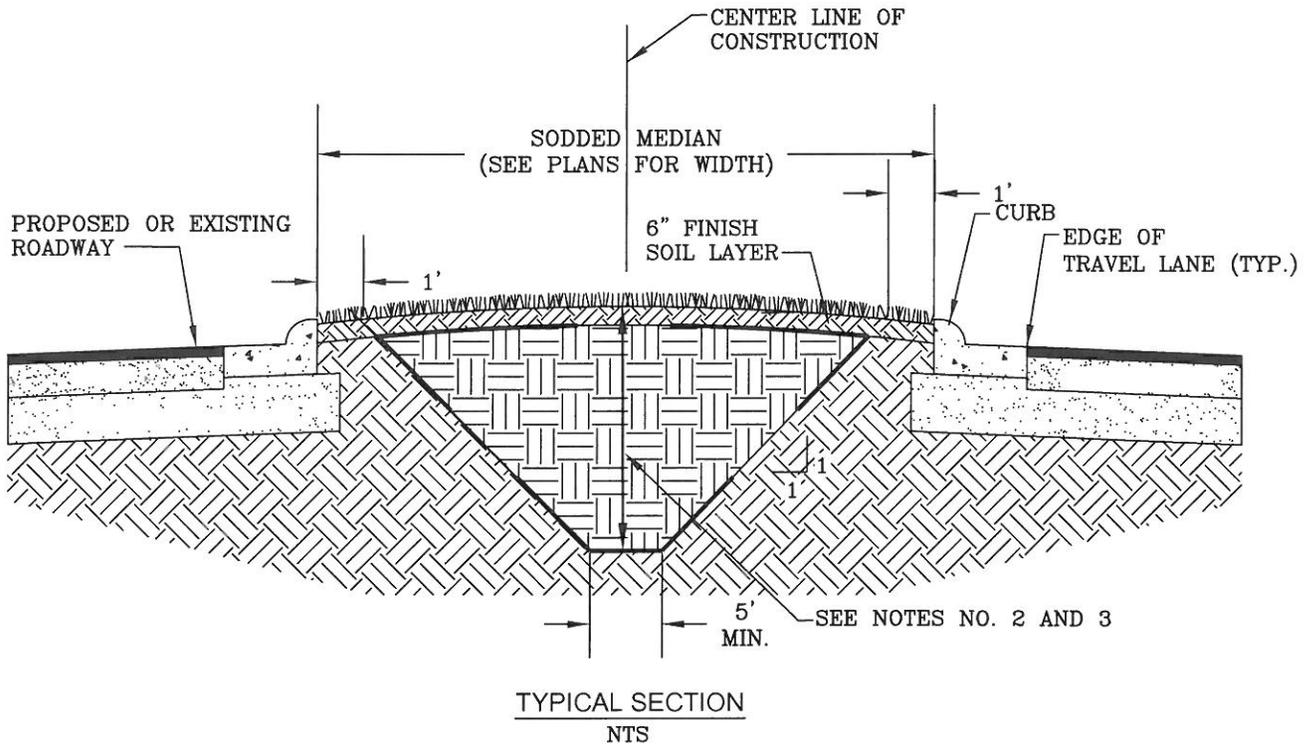
DATE: **SEPTEMBER / 2012**

DIV. DIRECTOR OF ENG & TECH. SUPPORT

REVISION: 

**NOTES:**

1. 6" FINISH SOIL LAYER SHALL COMPLY WITH SECTION 162 OF F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION.
2. REMOVE UNSUITABLE MATERIAL (EXISTING PAVEMENTS, ROADWAY BASE, LIMEROCK, MILLINGS AND OTHER DEBRIS), TO A MINIMUM DEPTH OF 4'-0" BELOW FINISHED GRADE IN MEDIAN AREAS. MEDIAN FILL SOIL, FOR AREAS THAT ARE EXCAVATED, SHALL BE NATIVE SITE SOILS APPROVED BY THE ENGINEER. IN THE ABSENCE OF SUFFICIENT NATIVE SITE SOILS, REPLACEMENT FILL SHALL BE SUITABLE FOR PLANT GROWTH AND APPROVED BY THE ENGINEER. EXCAVATION AND REPLACEMENT SOIL SHALL BE INCLUDED IN PAY ITEM FOR "EXCAVATION OF UNSUITABLE MATERIAL."
3. DO NOT DISTURB EXISTING MEDIAN SOILS EXCEPT TO REMOVE EXISTING UNSUITABLE MATERIALS LISTED IN NOTE NO. 2, OR TO CONSTRUCT PROPOSED IMPROVEMENTS.
4. GROUND SURFACE ELEVATION OF MEDIAN SHALL BE AS SHOWN ON APPROVED PLANS.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
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MEDIAN SOIL; COMPOSITION AND DEPTH

DETAIL INDEX I.D.:

1105

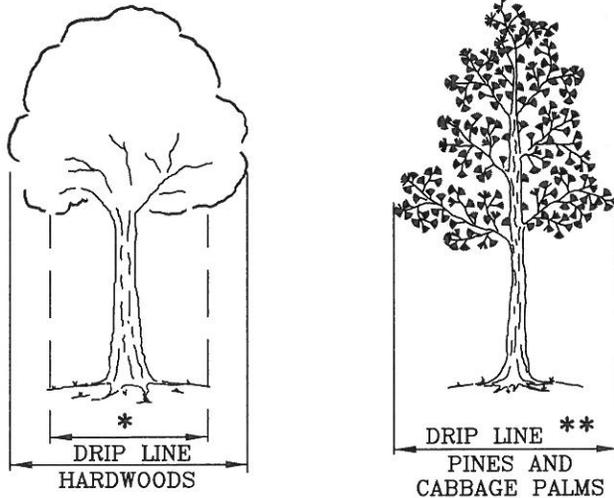
DATE: **SEPTEMBER/2012**

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REVISION:

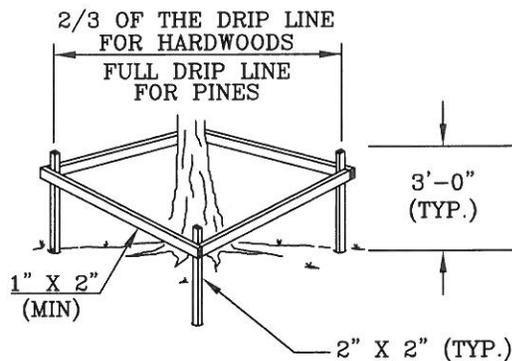
**NOTES:**

1. NO TREE SHALL BE REMOVED UNLESS SPECIFICALLY TAGGED FOR REMOVAL BY THE ENGINEER.
2. THE CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE TREES THAT ARE TO REMAIN.
3. ROOTS GREATER THAN 1" DIAMETER SHALL NOT BE CUT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. ALL ROOT PRUNING SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANSI-A300 STANDARDS.
5. STOCKPILED MATERIALS OR UNNECESSARY VEHICULAR TRAFFIC SHALL NOT BE ALLOWED OVER ANY TREE ROOTS SYSTEM.
6. BARRIER SHALL BE CONSTRUCTED WHEN CALLED FOR ON PLANS OR AS DIRECTED BY THE ENGINEER. BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL REMOVAL IS DIRECTED BY THE ENGINEER.
7. COST OF ALL TREE BARRICADES SHALL BE INCLUDED IN PAY ITEM 120-1100 (GRADING).
8. SUBSTITUTION FOR WOODEN (1" x 2" MIN.) BEAMS WITH OTHER MATERIALS REQUIRE PRE-APPROVAL BY THE COUNTY ENGINEER.



**REQUIRED DISTANCES FROM TREE TRUNK**

- \* 2/3 THE DRIP LINE OR 6 FEET, WHICHEVER IS GREATER.
- \*\* DRIP LINE FOR PINES/CONIFERS AND CABBAGE PALMS FOR 6 FEET, WHICHEVER IS GREATER.



**BARRIER**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**TREE PROTECTION**

DETAIL INDEX I.D.:

1111

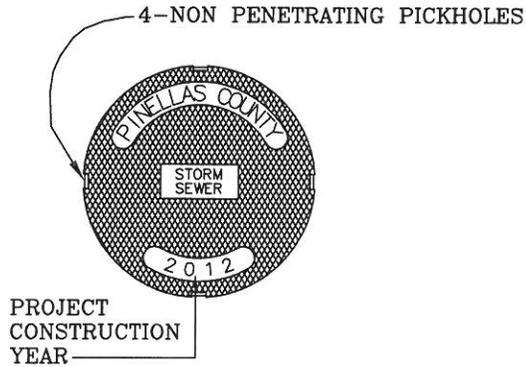
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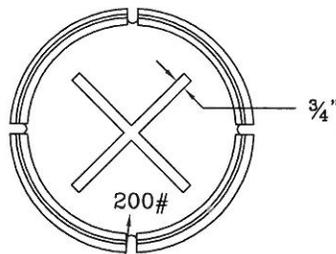
REVISIONS

**NOTES:**

1. THIS COVER IS NOT TO BE USED FOR SANITARY SEWER MANHOLES.
2. THIS COVER MAY BE USED WITH FRAME TYPE I, II OR III AS DETAILED IN F.D.O.T. INDEX No. 201. THE ACTUAL FRAME TO BE USED SHALL BE AS SPECIFIED IN THE PLANS.
3. MATERIALS AND FABRICATION SHALL CONFORM TO SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. COVERS FOR UNDERDRAIN CLEANOUTS SHALL BE LABELED UNDERDRAIN AND NOT STORM SEWER.
5. COVERS SHALL BE U.S.F. TYPE X OR EQUAL. (200 LBS. MINIMUM)

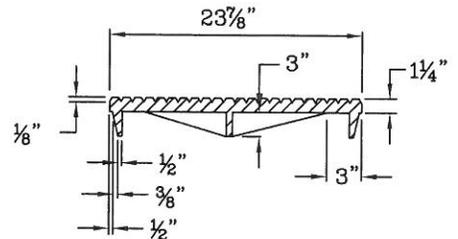


**TOP VIEW**



2" RAISED OR DEPRESSED  
WEIGHT IDENTIFICATION NUMBER

**BOTTOM VIEW**



**PROFILE VIEW**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**STORM SEWER COVER**

DETAIL INDEX I.D.:

1250

DATE:

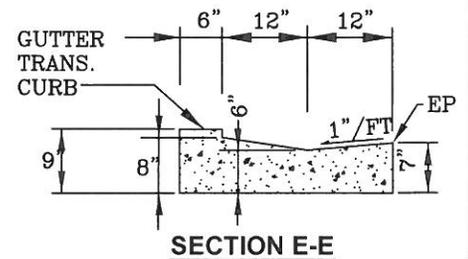
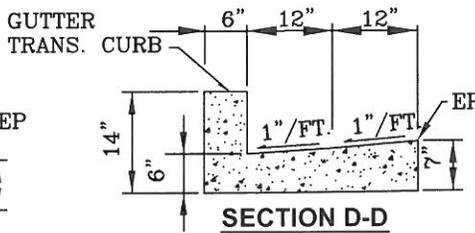
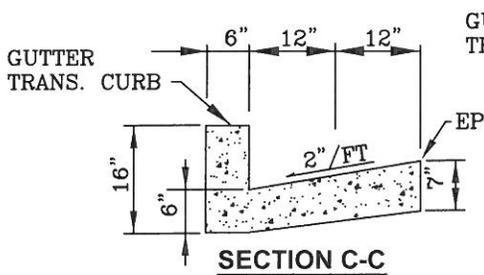
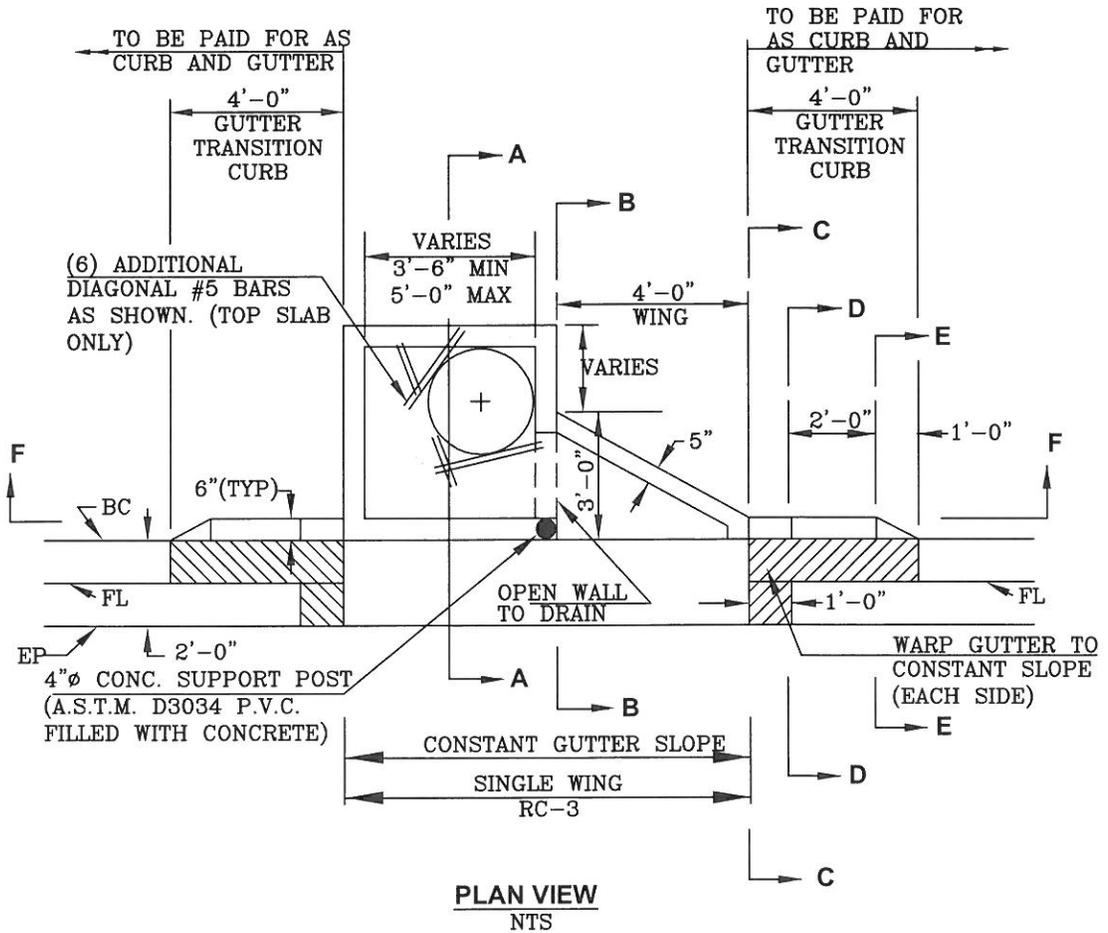
SEPTEMBER/2012

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**NOTES:**

1. SECTIONS 'A'-'A' AND 'B'-'B' ARE ON SHEET 2 OF 4.
2. SECTIONS 'C'-'C', 'D'-'D', AND 'E'-'E' ON THIS SHEET SHOW TRANSITION FOR TYPE 'A' CURB AND GUTTER.
3. TRANSITION FOR TYPE 'F' CURB IS ON SHEET 4 OF 4.
4. SECTION 'F'-'F' IS ON SHEET 3 OF 4.
5. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
6. RC-5 IS CONSTRUCTED WITHOUT WINGS.

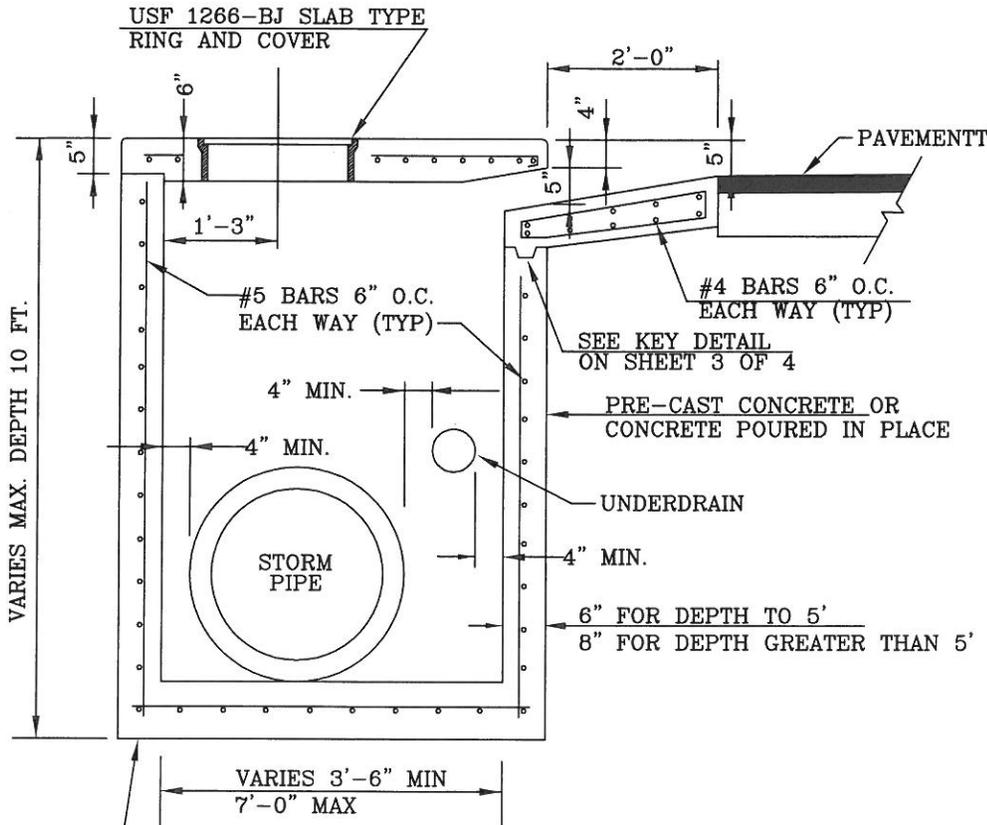


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)**  
**SHEET 1 OF 4**

DETAIL INDEX I.D.:  
**1255-SHT. 1**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
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**NOTES:**

1. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
2. RC-5 IS CONSTRUCTED WITHOUT WINGS.



VARIES MAX. DEPTH 10 FT.

USF 1266-BJ SLAB TYPE  
RING AND COVER

#5 BARS 6" O.C.  
EACH WAY (TYP)

4" MIN.

4" MIN.

STORM  
PIPE

SEE KEY DETAIL  
ON SHEET 3 OF 4

PRE-CAST CONCRETE OR  
CONCRETE POURED IN PLACE

UNDERDRAIN

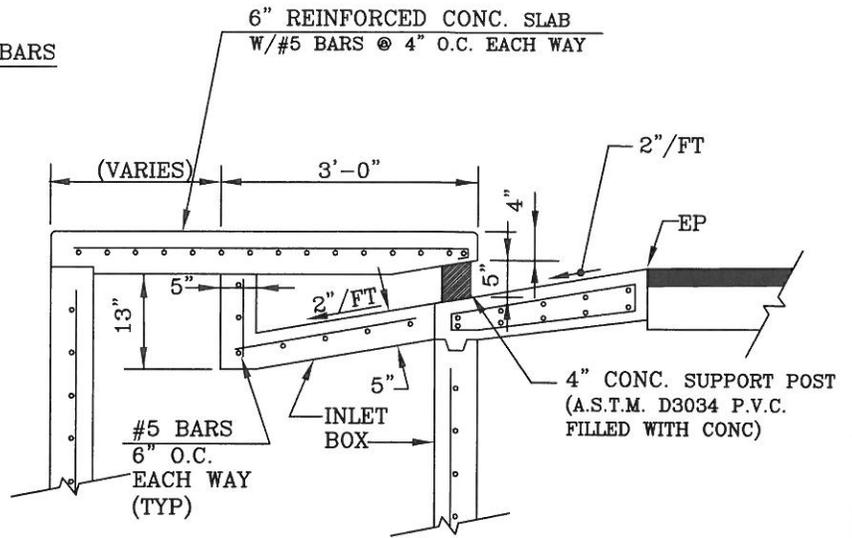
4" MIN.

6" FOR DEPTH TO 5'  
8" FOR DEPTH GREATER THAN 5'

VARIES 3'-6" MIN  
7'-0" MAX

8" REINFORCED CONC SLAB W/#5 BARS  
@ 6" O.C. EACH WAY (TYP)

**SECTION A-A**  
NTS



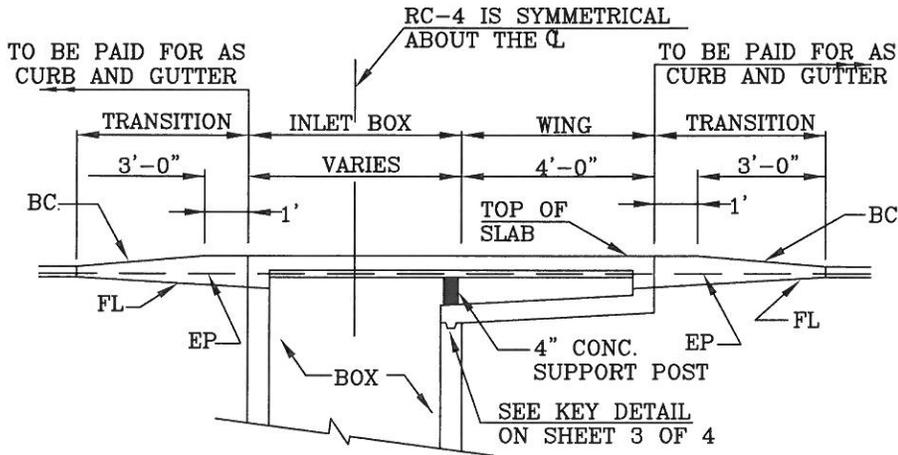
**SECTION B-B**  
(VIEW THROUGH INLET BOX AND WING TRANSITION)

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)  
SHEET 2 OF 4

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1255-SHT. 2  
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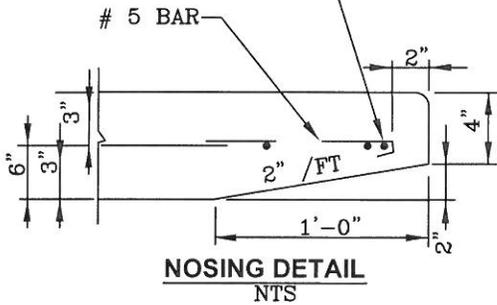
**NOTES:**

1. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
2. RC-5 IS CONSTRUCTED WITHOUT WINGS.

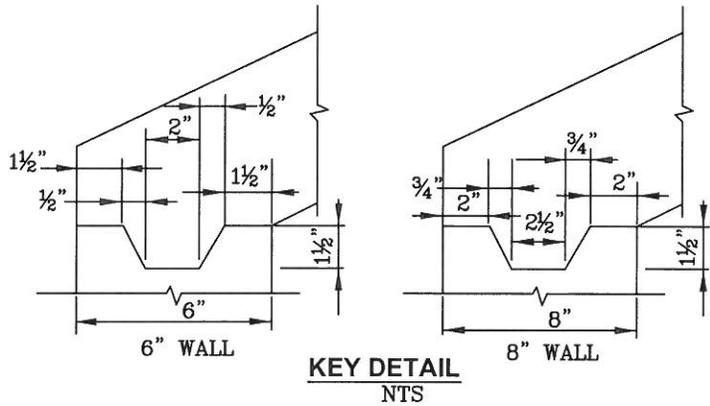


**SECTION F-F**  
NTS

ADDITIONAL # 5 BAR ALONG ENTIRE LENGTH OF NOSING



**NOSING DETAIL**  
NTS



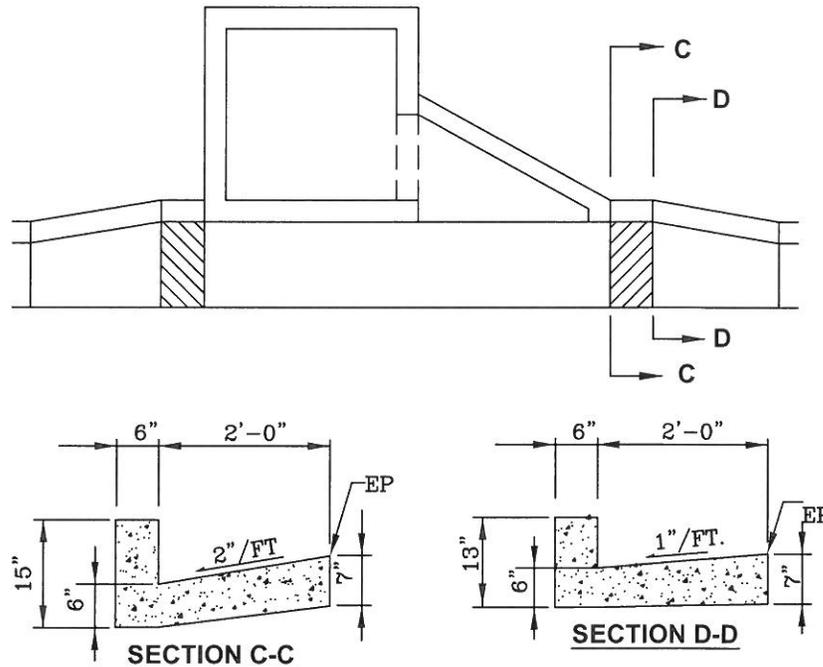
**KEY DETAIL**  
NTS

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)  
SHEET 3 OF 4

DETAIL INDEX I.D.:  
**1255-SHT 3**  
DATE: **SEPTEMBER/2012**  
DIV. DIRECTOR OF ENB. & TECH. SUPPORT  
REVISION: *[Signature]*

**NOTES:**

1. THESE INLETS FOR USE WITH PINELLAS COUNTY AND WITH F.D.O.T. TYPE 'A' CURB AND UTTER, AND WITH TYPE 'F' CURB (FOR USE WITH TYPE 'F', SEE DETAILS FOR TYPE 'F' CURB TRANSITION).
2. CENTERLINES OF INLETS SHOULD BE LOCATED AT PROPERTY LINES UNLESS OTHERWISE APPROVED.
3. COVER FOR ALL REINFORCING STEEL SHALL BE 2" MINIMUM.
4. SUGGESTED MAXIMUM INLET DESIGN FLOWS FOR 0.4% PROFILE GRADE AND 1/4"/FT. CROSS SLOPE.
  - RC-3: 4.5 CFS (3'-6" WIDTH) / 5.5 CFS (5'-0" WIDTH)
  - RC-4: 6.5 CFS (3'-6" WIDTH) / 7.5 CFS (5'-0" WIDTH)
  - RC-5: 3 CFS (3'-6" WIDTH) / 4 CFS (5'-0" WIDTH)
5. INLETS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE, AND MAY BE EITHER PRECAST OR POURED IN PLACE.
6. CONCRETE SHALL BE CLASS II, WITH  $F_c' = 3400$  PSI (MIN.). ( $F_c' = 4000$  PSI (MIN.) FOR TOP SLAB).
7. REINFORCING STEEL SHALL BE GRADE 60, DEFORMED, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 615 (GRADE 60 TOP SLAB.)
8. WHEN INLET TOPS EXTEND INTO SIDEWALK OR OTHER PAVED AREAS, THE FINISHED SURFACE OF THE INLET TOPS SHALL CONFORM TO THE FINISHED GRADE AND CROSS SLOPE OF THE ADJACENT SIDEWALK OR PAVEMENT. TO ACHIEVE THIS CONFORMITY THE DEPTH OF THE INLET SLAB MAY BE INCREASED WHERE NECESSARY, AND/OR THE HEIGHT OF THE INLET SIDE AND REAR WALLS MAY BE INCREASED OR DECREASED AS REQUIRED. HOWEVER, THE THICKNESS OF THE INLET SLAB AT ANY POINT SHALL NOT BE LESS THAN THAT SHOWN IN THE PLANS, AND NO ADJUSTMENT SHALL BE MADE TO THE DEPTH OF INLET OPENINGS OR THE HEIGHT OF THE TOP FRONT EDGE OF THE INLET SLAB.
9. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL HAVE A 3/4" CHAMFER.
10. F.D.O.T. TYPE 'J' BOTTOM MAY BE USED WITH 'RC-3', 'RC-4' AND 'RC-5' INLETS. IN SUCH CASES THE STRUCTURE BOTTOM MAY BE ROTATED AS DIRECTED BY ENGINEER IN ORDER TO FACILITATE CONNECTIONS BETWEEN THE STRUCTURE WALLS AND STORM SEWER PIPES.
11. INLET SHOWN IS TYPE 'RC-3' (SINGLE WING). TYPE 'RC-4' (DOUBLE WING) IS THE SAME AS 'RC-3', EXCEPT THAT IT IS SYMMETRICAL ABOUT CENTERLINE OF BOX, AND RC-5 IS THE SAME, EXCEPT THAT IT IS CONSTRUCTED WITHOUT WINGS.
12. SECTIONS 'C'-'C' AND 'D'-'D' ON THIS SHEET SHOW TRANSITION FOR TYPE 'F' CURB.

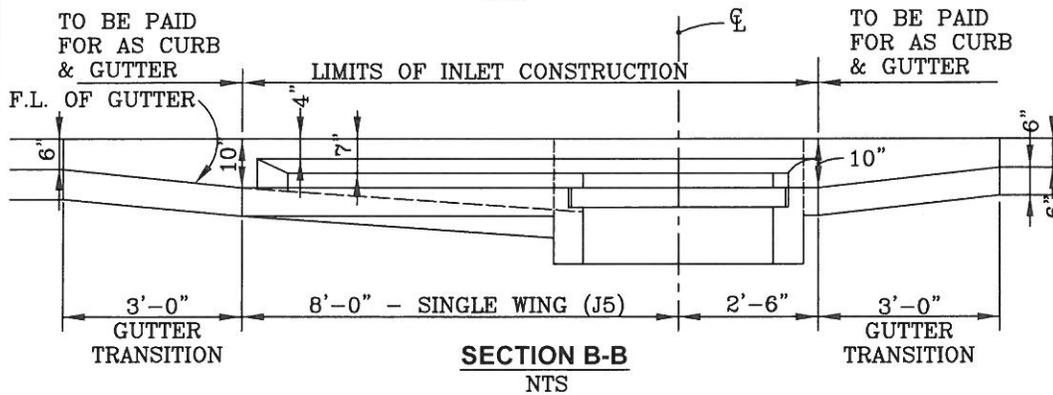
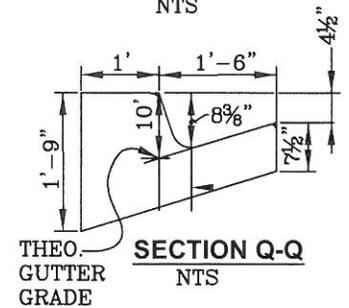
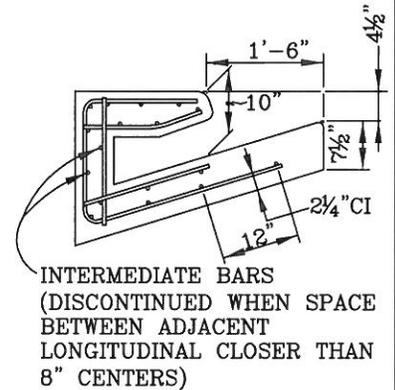
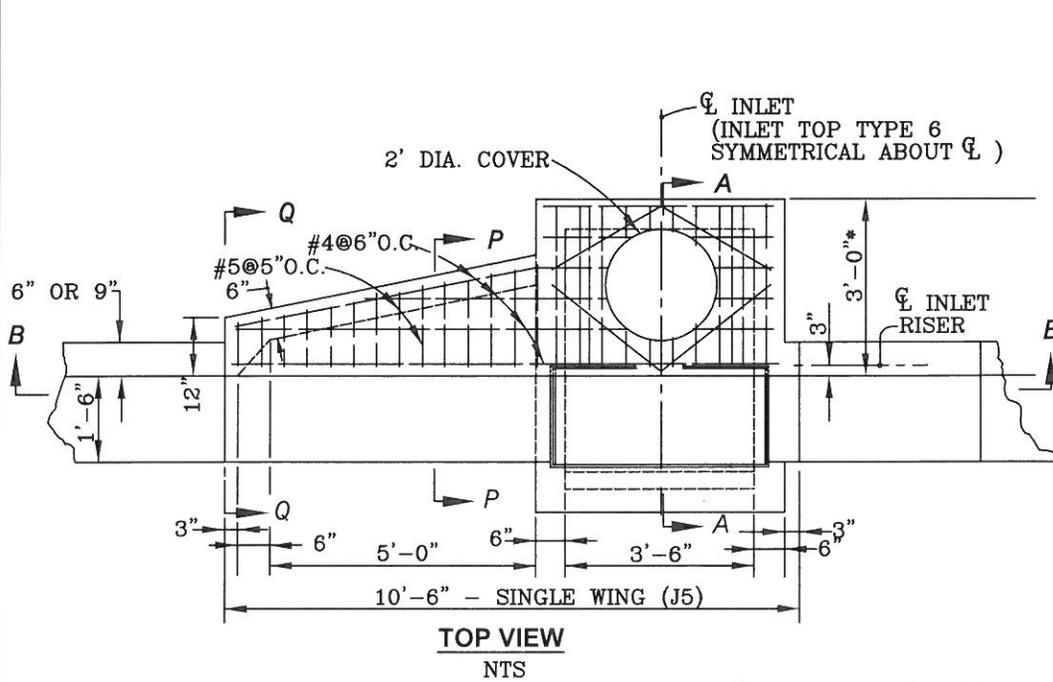


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)**  
**SHEET 4 OF 4**

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DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
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**NOTES:**

- COVER FOR ALL REINFORCING STEEL SHALL BE 2" MINIMUM.
- INLETS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE, AND MAY BE EITHER PRECAST OR POURED IN PLACE.
- CONCRETE SHALL BE CLASS II, WITH  $F_c' = 3400$  PSI (MIN). CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF F.D.O.T'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- REINFORCING STEEL SHALL BE GRADE 60, DEFORMED, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 615.
- UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL HAVE A  $\frac{3}{4}$ " CHAMBER.
- SEE F.D.O.T. INDEX 211 FOR GRATE INFORMATION.



(CURB INLET TOP TYPE J6 IS SYMMETRICAL ABOUT THE CENTER LINE)

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

P.C.E.D. J5 & J6 CURB INLETS - SHEET 1 OF 2  
(MODIFIED F.D.O.T. J5 & J6 CURB INLETS)

DETAIL INDEX I.D.:

1260 SHT. 1

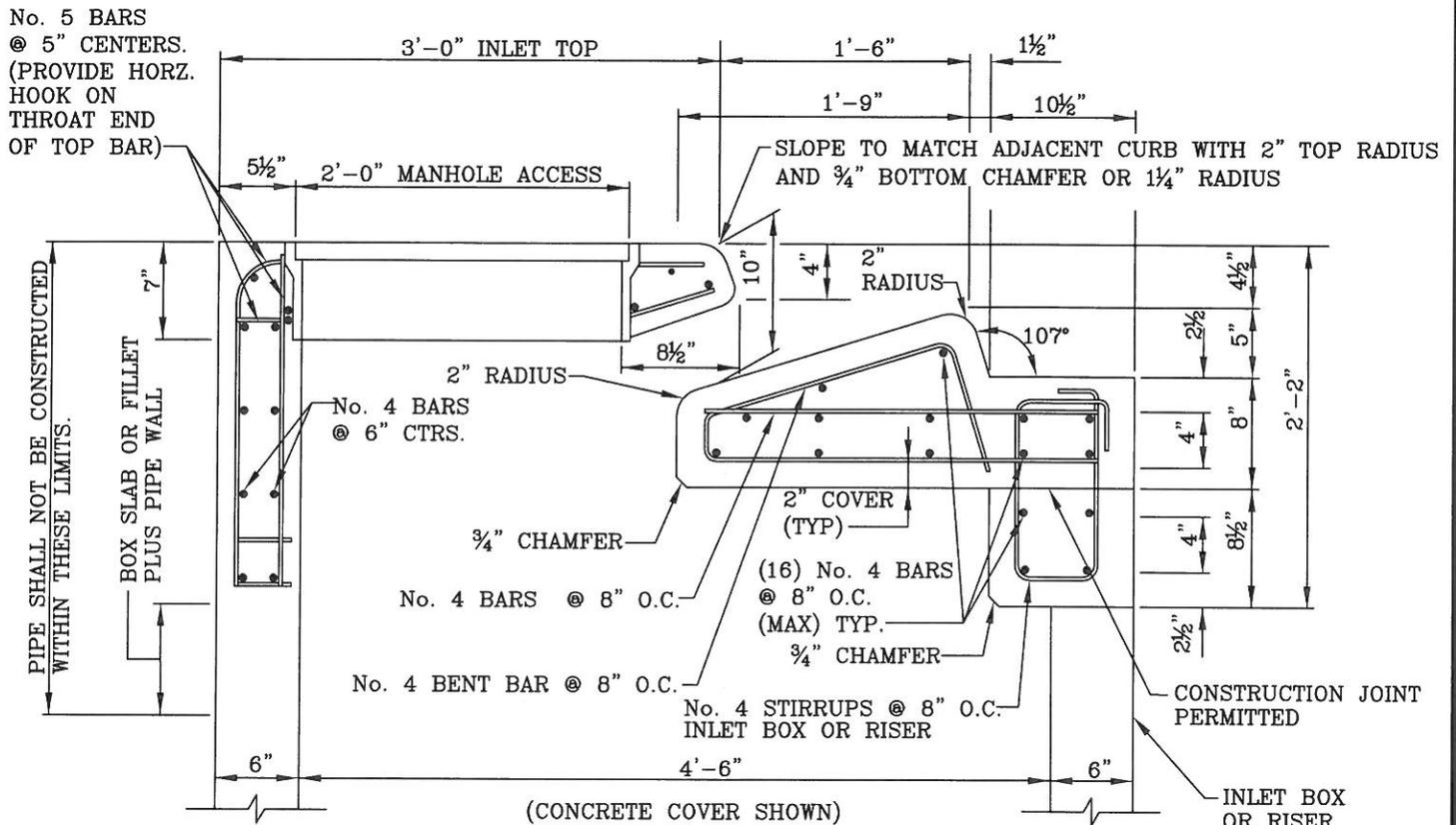
DATE: SEPTEMBER/2012

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**NOTES:**

1. MANHOLE COVER & FRAME TO BE F.D.O.T. INDEX No. 201, TYPE III.
2. CONTRACTOR TO SUBMIT SHOP DRAWING TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. J5 DESIGNATES A SINGLE WING INLET.
4. J6 DESIGNATES A DOUBLE WING INLET.



INLET TOP:  
No. 4 TOP BARS @ 6" O.C.  
No. 4 BOTTOM BARS @ 6" O.C.

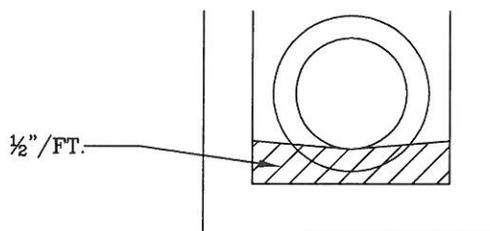
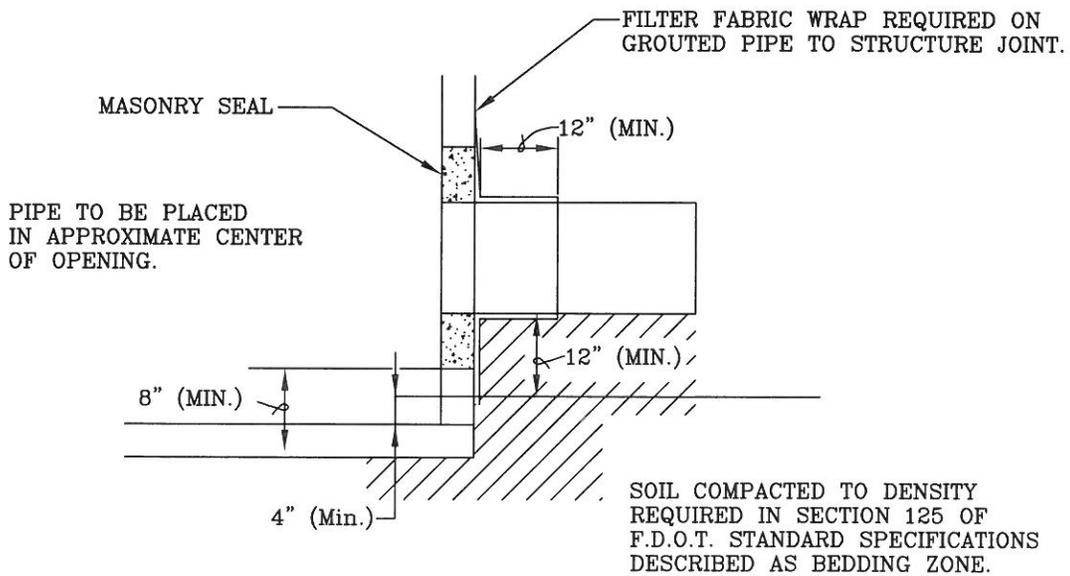
**SECTION A-A**  
N.T.S.

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
P.C.E.D. J5 & J6 CURB INLETS- SHEET 2 OF 2  
(MODIFIED F.D.O.T. J5 & J6 CURB INLETS)

DETAIL INDEX I.D.:  
1260-SHT.2  
DATE: SEPTEMBER/2012  
DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
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**NOTES:**

1. GROUT TO CONSIST OF 3:1 SAND-CEMENT MIXTURE OR ANY CLASS CONCRETE.
2. FOR ALL STRUCTURES, UNLESS EXCLUDED BY SPECIAL DETAIL, BRICKS SHALL NOT BE USED IN THIS AREA, UNLESS THEY ARE COVERED WITH 4" THICK (MIN.) CONCRETE ABOVE THE BRICKS.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**FILTER FABRIC WRAP AND**  
**GROUT AT STRUCTURES**

DETAIL INDEX I.D.:

1265

DATE:

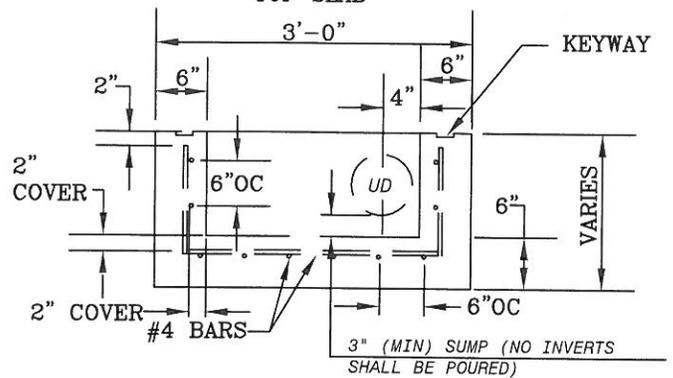
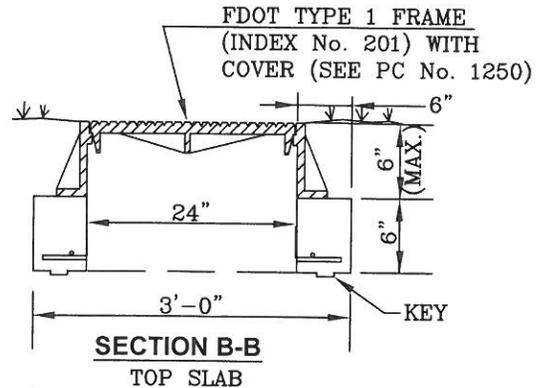
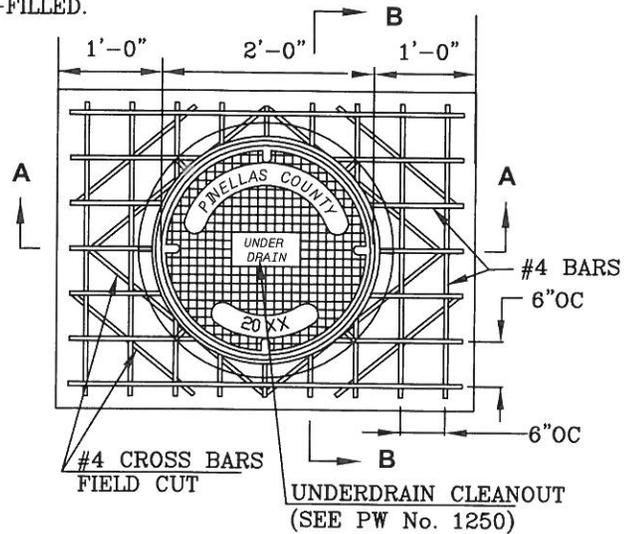
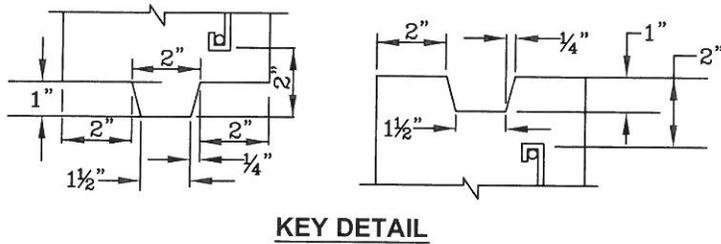
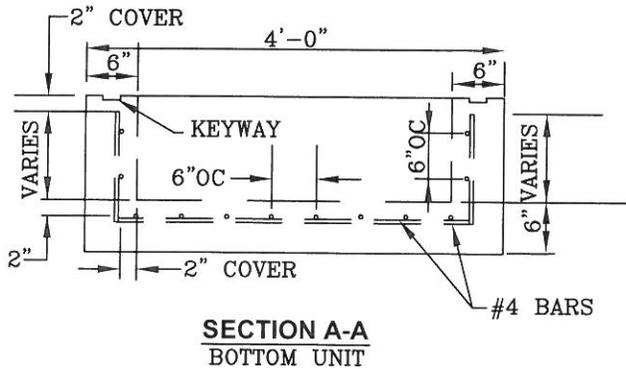
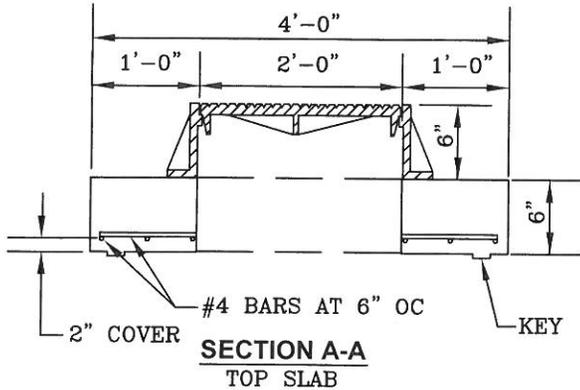
SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. THIS MANHOLE SHALL BE CONSTRUCTED OF PRECAST CONCRETE.
2. CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. LIFTING HOLES SHALL BE LOCATED AS NEEDED.
4. NO INVERTS SHALL BE POURED.
5. 2" CLEARANCE COVER FOR REINFORCING STEEL.
6. OPENING AROUND UNDERDRAIN PIPE SHALL BE GROUT-FILLED.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**UNDERDRAIN INSPECTION MANHOLE TYPE 1**

DETAIL INDEX I.D.:

**1281**

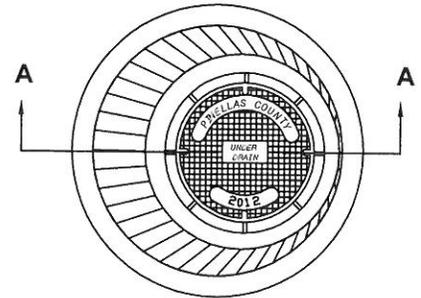
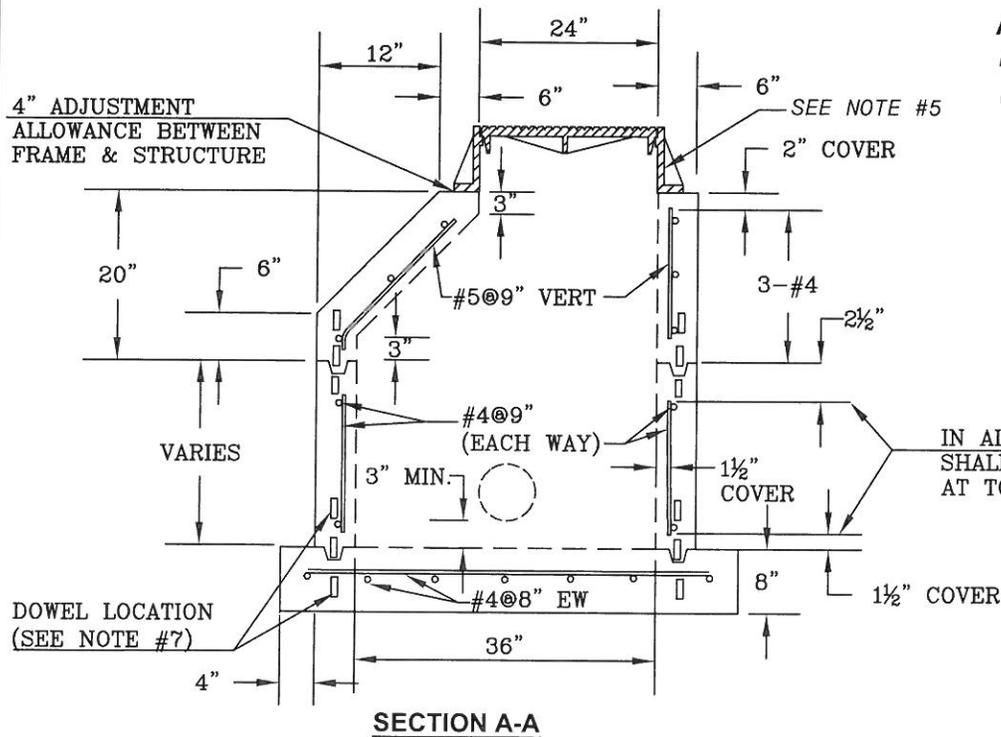
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION

**NOTES:**

1. CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
2. OPENING AROUND UNDERDRAIN PIPE SHALL BE GROUT-FILLED.
3. MANHOLE COVERS SHALL COMPLY WITH PC No. 1250.
4. WHEN AUTHORIZED BY THE ENGINEER AND AT NO ADDITIONAL EXPENSE TO THE COUNTY, F.D.O.T. INDEX No. 200 MANHOLE TYPE P (ALTERNATE A), MAY BE USED IN PLACE OF A COUNTY UNDERDRAIN INSPECTION MANHOLE.
5. EXCEPT AS OTHERWISE NOTED ON THE PLANS, FRAME FOR MANHOLE COVERS SHALL BE F.D.O.T. INDEX No. 201, TYPE I.
6. MINIMUM WALL THICKNESS: 4½" FOR PREFAB AND 6" FOR POURED IN PLACE.
7. FOR POURED IN PLACE CONSTRUCTION, DOWELS MAY BE USED IN LIEU OF JOINT KEY AND GROUTING. DOWELS SHALL EXTEND A MINIMUM OF 6" INTO ADJACENT SECTIONS.

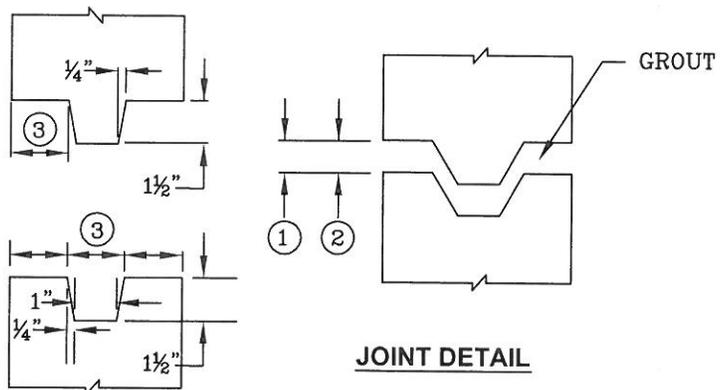


**PLAN VIEW**  
(SEE FDOT INDEX No. 200)

IN ALL CASES ONE #4 SHALL BE PLACED AT TOP AND BOTTOM

**JOINT DIMENSIONS**

- ① 1" PRIOR TO PLACEMENT OF UPPER SECTION
- ② ½" MAXIMUM AFTER FINAL SETTLEMENT OF UPPER SECTION
- ③ 1½" WIDE (4½" WALL)  
2" WIDE (6" WALL)



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**UNDERDRAIN INSPECTION MANHOLE TYPE 2**

DETAIL INDEX I.D.:

**1282**

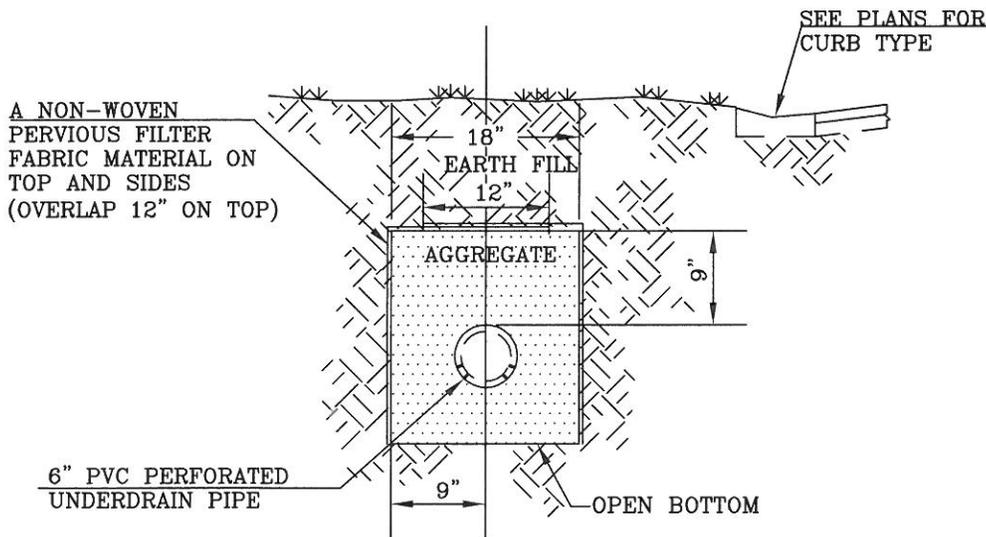
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

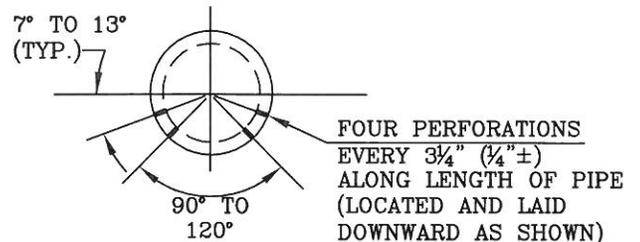
**NOTES:**

1. ALL VALUES EXCEPT A.O.S. AND ELONGATION ARE MINIMUM AVERAGE ROLL VALUES IN THE WEAKEST PRINCIPAL DIRECTION. VALUES FOR A.O.S. AND ELONGATION ARE MAXIMUM AVERAGE ROLL VALUES.
2. FOR ADDITIONAL NOTES SEE F.D.O.T. STANDARD INDEX NO. 199.
3. PAYMENT FOR UNDERDRAIN (L.F.) SHALL BE FOR THE COMPLETED ASSEMBLY, NOT FOR INDIVIDUAL COMPONENTS REGARDLESS IF THEY EXIST IN THE BID SUBMITTAL SHEETS.
4. PVC PIPE SHALL CONFORM TO EITHER ASTM F758 OR ASTM D3034, EXCEPT THAT THE PIPE AND ARRANGEMENT OF PERFORATIONS SHALL CONFORM TO THE PERFORATION DETAIL ON THIS SHEET.
5. AGGREGATE SHALL BE SPECIFIED IN THE F.D.O.T. STANDARD SPECIFICATIONS, SECTION 901, AND SHALL BE SIZE 57.
6. DIAMETER OF PERFORATIONS SHALL BE  $\frac{3}{16}$ " TO  $\frac{3}{8}$ ".
7. MAXIMUM ALLOWABLE BEND SHALL BE  $22\frac{1}{2}$ ", WITH A STRAIGHT 2' MINIMUM PIPE SEPARATION BETWEEN BENDS.
8. DO NOT USE PERFORATED PVC PIPE OR AGGREGATE UNDERNEATH ROADWAYS.



**SECTION VIEW**

STANDARD CRITERIA	UNIT	TEST METHOD	VALUE
Permittivity	sec <sup>-1</sup>	ASTM-D-4491	0.2
A.O.S.	U.S. Sieve #	ASTM-D-4751	100+
Elongation	%	ASTM-D-4632	50
Grab Tensile Strength	N	ASTM-D-4632	1100
Sewn Strength	N	ASTM-D-4884	990
Puncture	N	ASTM-D-4833	400
Trapezoidal Tear	N	ASTM-D-4533	400
U.V. Resistance	AT 500 Hrs.	ASTM-D-4355	50%



**PERFORATION DETAIL**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**ROADSIDE UNDERDRAIN INSTALLATION**

DETAIL INDEX I.D.:

**1290**

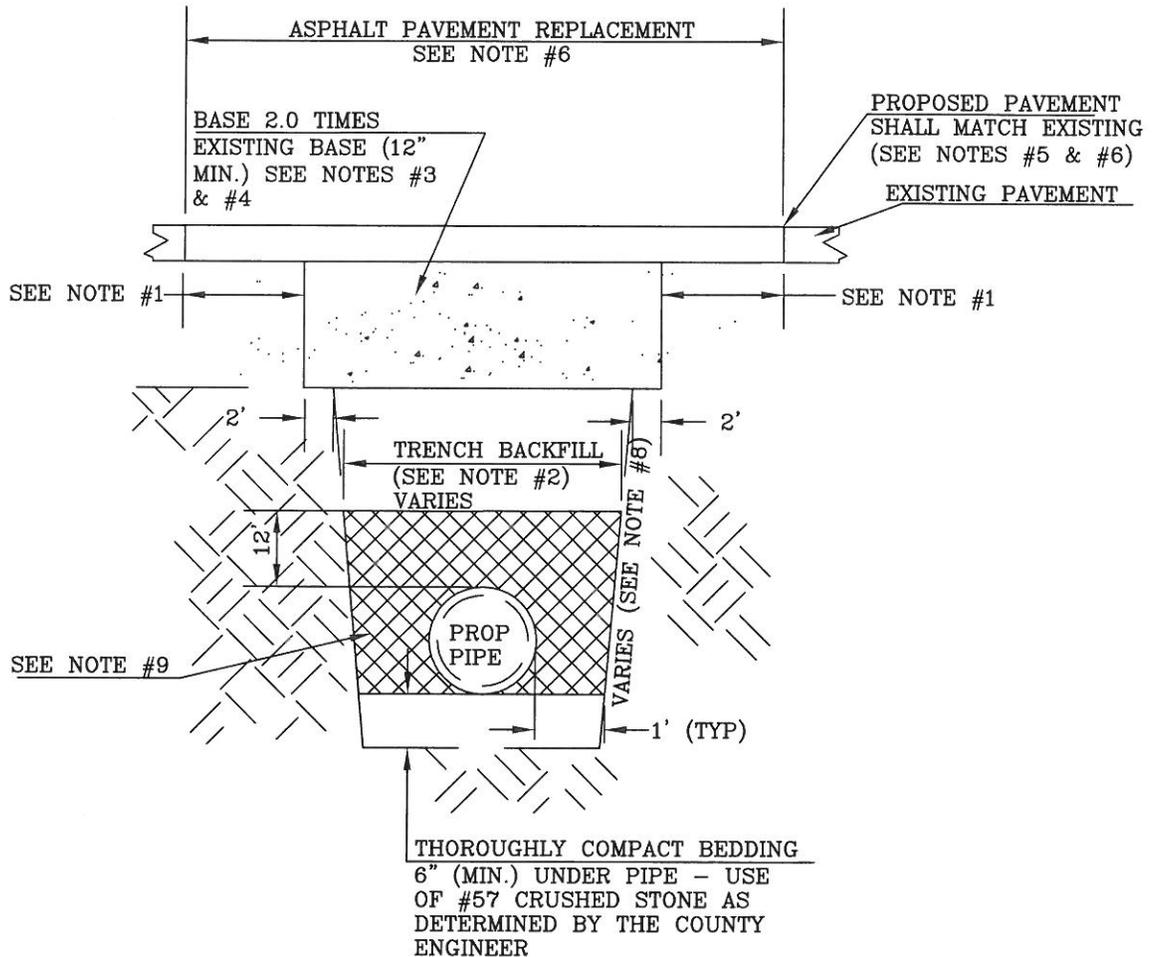
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION: *[Signature]*

**NOTES:**

1. MILLING AND RESURFACING LIMITS: 3'-0" FOR RESIDENTIAL ROADWAYS; 25'-0" FOR ALL OTHER TYPES OF ROADWAYS.
2. BACKFILL FOR TRENCH SHALL BE PLACED IN 6" COMPACTED LAYERS TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99. (EXCAVATABLE FLOWABLE FILL OPTION IS SUBJECT TO COUNTY ENGINEER'S APPROVAL). TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY.
3. BASE MATERIAL SHALL BE LIME ROCK OR CRUSHED CONCRETE (MIN. LBR 100) AND SHALL BE PLACED IN 6" COMPACTED LAYERS TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 (MODIFIED) (TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY).
4. AS AN ALTERNATIVE TO COMPACTED BASE AND IN WET AREAS, FULL-LIFT ASPHALTIC CONCRETE, FINE TRAFFIC LEVEL C TYPES SP9.5 OR 12.5, SHALL BE PLACED IN 2" COMPACTED LAYERS WITH A MINIMUM THICKNESS EQUAL TO THE EXISTING BASE (6" MIN.).
5. ASPHALTIC CONCRETE PAVEMENT JOINTS SHALL BE SAW-CUT AND ALL SURFACES TACK COATED.
6. ASPHALT SURFACE SHALL BE CONSISTENT WITH EXISTING GRADE. IN ACCORDANCE WITH PINELLAS COUNTY SPECIFICATIONS, THE FOLLOWING ROADWAY CLASSIFICATION TYPE/THICKNESS ARE REQUIRED: ARTERIAL-3" MIN. TYPE SP-12.5 FINE TRAFFIC LEVEL "C"; COLLECTOR-2" MIN. TYPE SP-12.5 FINE TRAFFIC LEVEL "C"; RESIDENTIAL-1½" MIN. TYPE SP-9.5 TRAFFIC LEVEL "C" (TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY).
7. OVERLAY OF CONSTRUCTION SCARS TO PAVEMENT AND TRENCH SHALL BE REQUIRED AS DIRECTED BY THE COUNTY ENGINEER.
8. EXCAVATION SHALL COMPLY WITH THE TRENCH SAFETY ACT REQUIREMENTS.
9. INSTALL DRY COMPACTABLE MATERIAL AROUND THE PIPE.
10. ALL MATERIAL, WORK AND TESTING SHALL MEET PINELLAS COUNTY STANDARD SPECIFICATIONS.
11. CONTRACTOR SHALL RESTORE PAVEMENT TO MATCH THE GRADES THAT EXISTED PRIOR TO CONSTRUCTION. ANY ADDITIONAL SURVEY NECESSARY TO ENSURE THAT THIS REQUIREMENT IS MET SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.

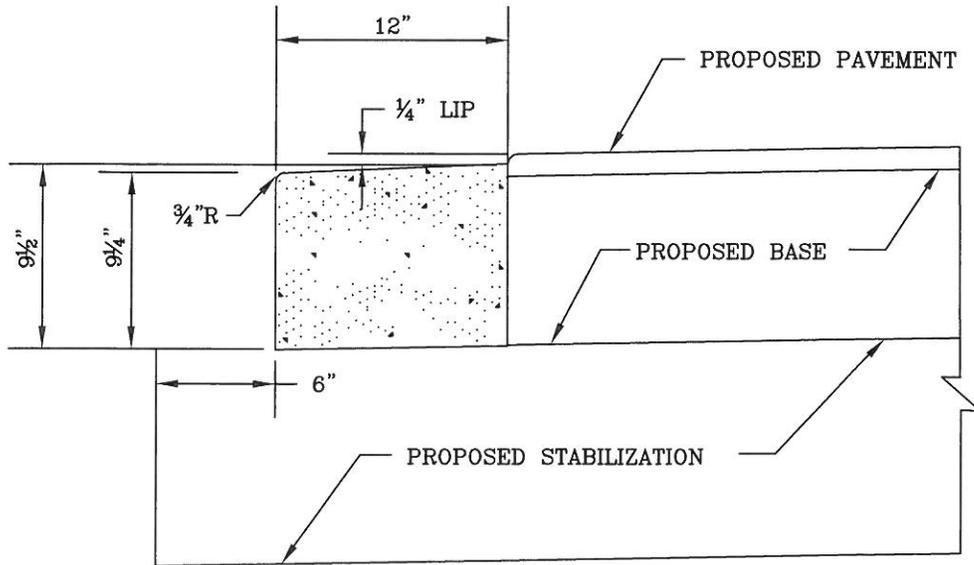


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**PAVEMENT CUTS, EXCAVATION AND**  
**RESTORATION**

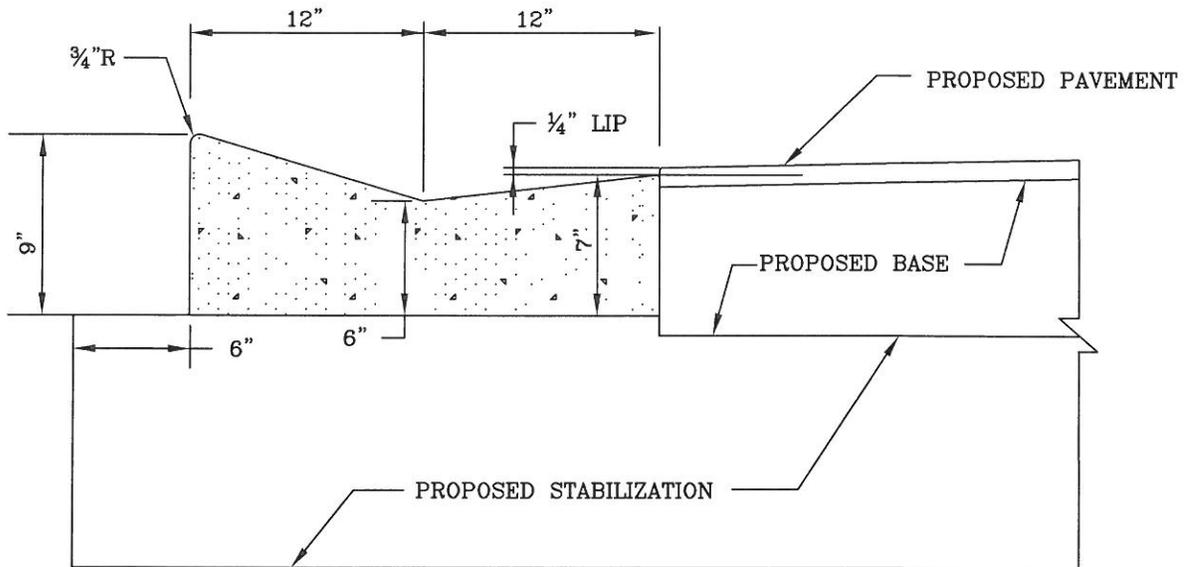
DETAIL INDEX I.D. :  
 1291  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTE:**

1.  $\frac{1}{2}$ " EXPANSION JOINT EVERY 500', BETWEEN CURB SECTIONS, AT RADII, END OF POUR AND STRUCTURES. (FALSE JOINTS EVERY 10', LONGITUDINALLY. SEE SECTION 520 OF THE F.D.O.T. STANDARD SPECIFICATIONS.)



**PROFILE VIEW OF HEADER CURB**



**PROFILE VIEW OF CURB & GUTTER**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**CURB AND GUTTER TYPE A**  
**AND HEADER CURB**

DETAIL INDEX I.D.:

1305

DATE:

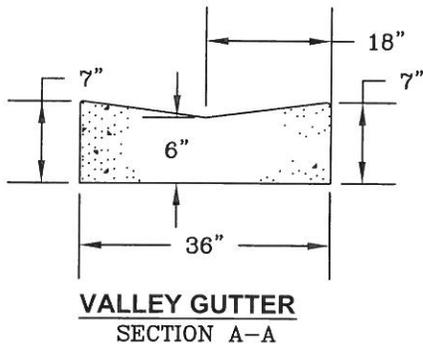
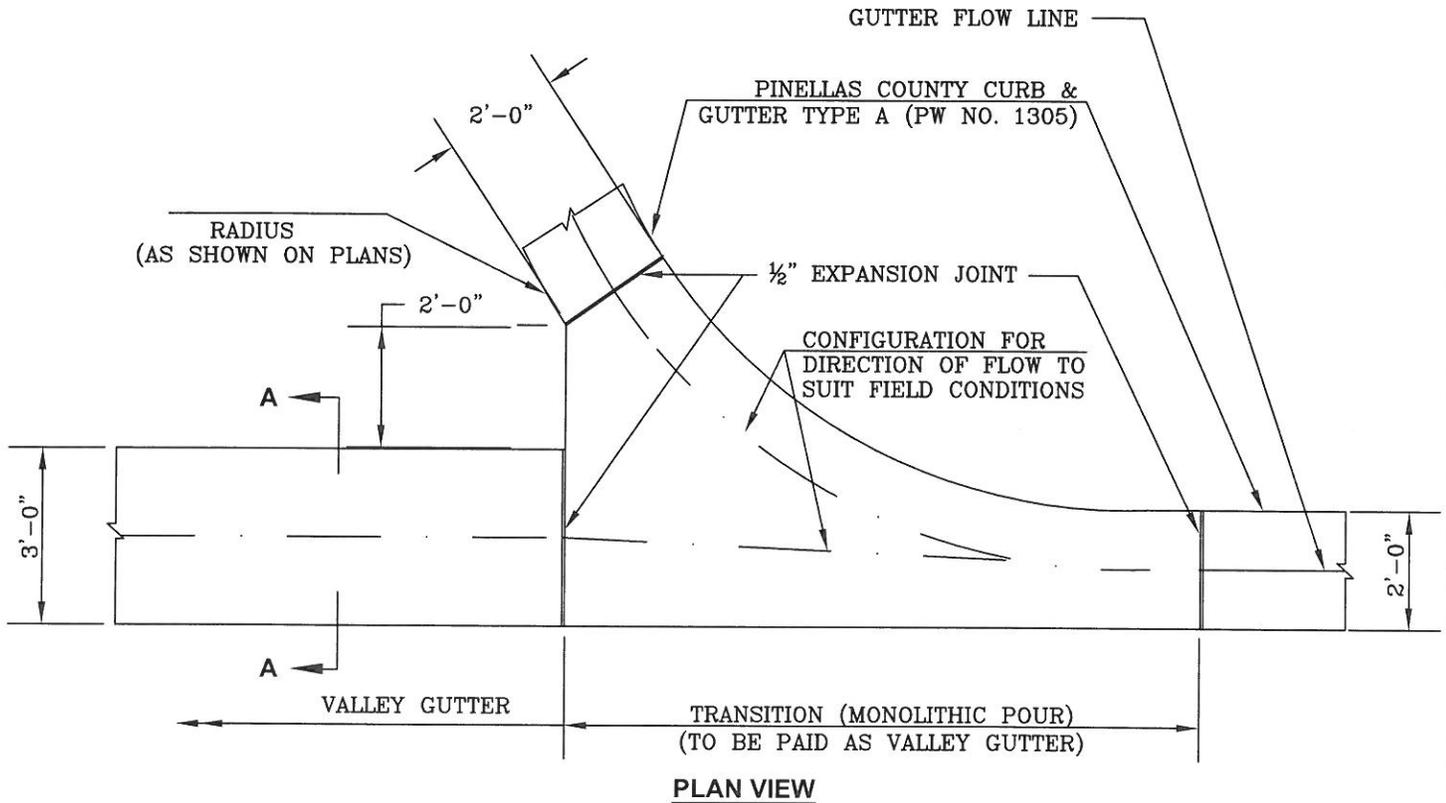
SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. SURFACE OF PAVEMENT SHALL BE 1/4" ABOVE LIP OF GUTTER.
2. 1/2" EXPANSION JOINT (AS SHOWN) AND CENTERLINE OF SIDE STREET, WITH (SAWCUT) FALSE JOINTS EVERY 10', LONGITUDINALLY. (SEE SECTION 520 OF THE F.D.O.T. STANDARD SPECIFICATIONS).



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

VALLEY GUTTER AND TRANSITION

DETAIL INDEX I.D.:

1315

DATE:

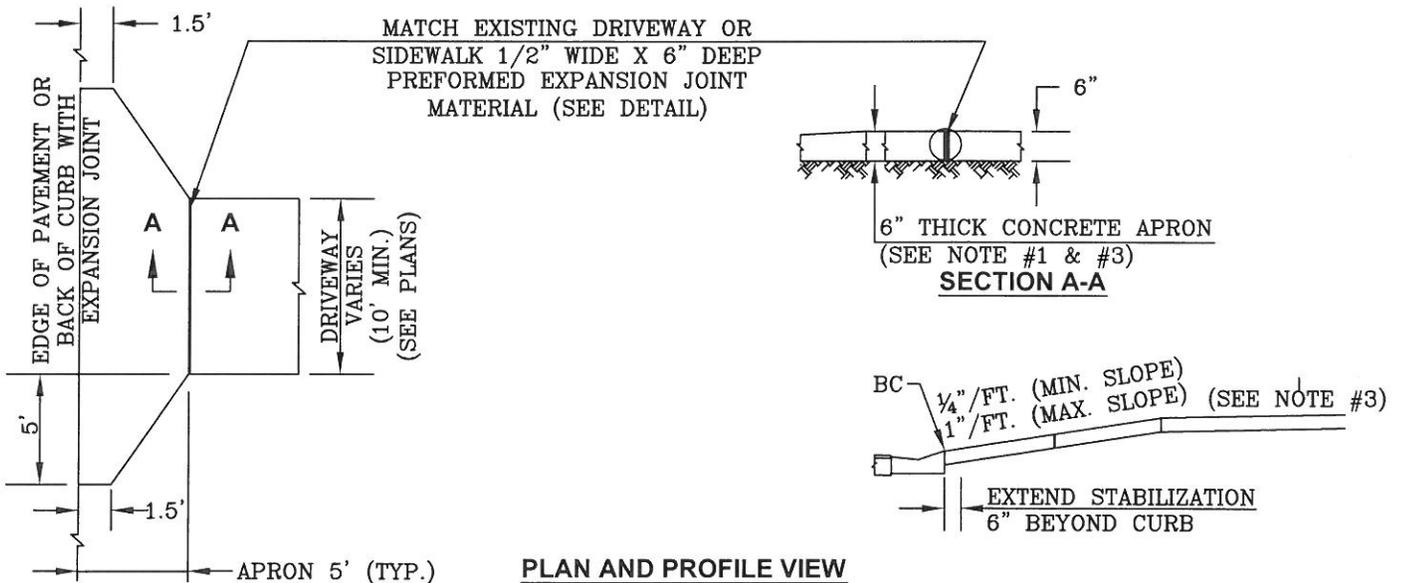
SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

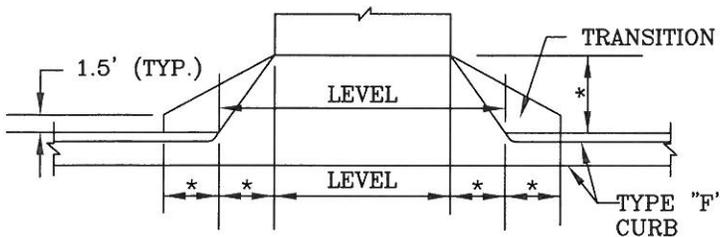
REVISION:

**NOTES:**

1. CONCRETE DRIVEWAY APRONS AND SIDEWALK CROSSINGS SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT (3000 PSI), 6" THICK REINFORCED WITH 6" X 6" #10/#10 WELDED WIRE FABRIC, (2" MINIMUM COVER FROM THE BOTTOM.)
2. FIBER REINFORCED CONCRETE 3000 PSI (MIN.) MAY BE USED IN PLACE OF THE REQUIREMENTS OF NO. 1 ABOVE.
3. CONSTRUCTION OF APRON/DRIVEWAY CROSS SLOPES AND SIDEWALK CROSS SLOPE THROUGH THE DRIVEWAY SHALL COMPLY WITH F.D.O.T. INDEX NO. 515 FOR ADA REQUIREMENTS.
4. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
5. WHEN THERE IS EXISTING SIDEWALK CROSSING THE PROPOSED DRIVEWAY, IT MUST BE REMOVED TO THE NEAREST JOINT BEYOND THE DRIVEWAY.
6. SIDEWALKS ADJACENT TO LOT PROPERTY LINES SHALL NOT HAVE A CROSS SLOPE GREATER THAN 2% PER F.D.O.T. INDEX 310.
7. CORNER LOTS INVOLVING HANDICAP RAMPS SHALL BE IN ACCORDANCE WITH F.D.O.T. INDEX 304 FOR SIDEWALK AND RAMP CONSTRUCTION.
8. SPECIAL NOTE FOR ASSESSMENT PROJECTS ONLY: IF THE DISTANCE BETWEEN THE APRON AND THE EXISTING DRIVEWAY IS 2'-0" OR LESS, THE CONTRACTOR SHALL EXTEND APRON CONSTRUCTION TO CONNECT TO EXISTING DRIVEWAY (PAYABLE UNDER THIS CONTRACT). IF THIS DISTANCE IS GREATER THAN 2'-0", CONSTRUCTION OF THE DRIVEWAY SHALL BE AGREED UPON BY THE PROPERTY OWNER AND CONTRACTOR, AT THE PROPERTY OWNER'S EXPENSE.

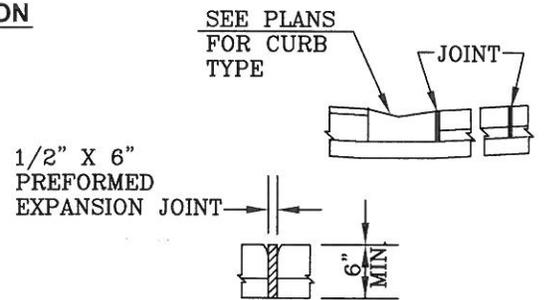


**TYPE "A" CURB DRIVEWAY APRON**



(\* ) SEE FDOT INDEX No. 515 FOR DIMENSIONS

**TYPE "F" CURB DRIVEWAY APRON**



**JOINT DETAIL**

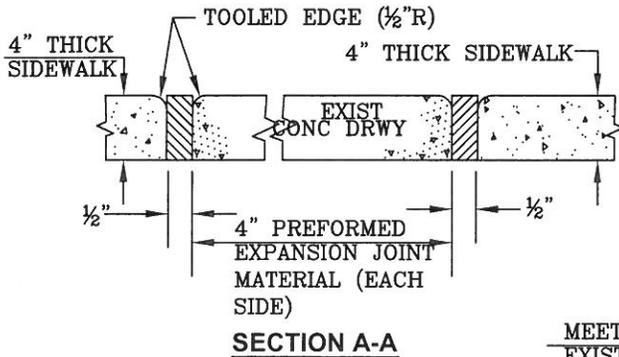
**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**CONCRETE DRIVEWAY APRON**

DETAIL INDEX I.D. :  
**1340**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REV/SION: *[Signature]*

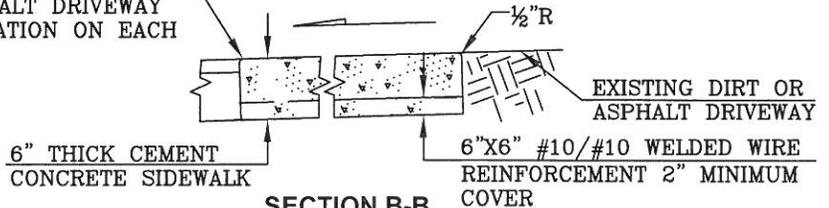
**NOTES:**

1. SEE PLANS FOR LIMITS OF SIDEWALKS AT ALL DRIVEWAYS.
2. PLACE 1/2" EXPANSION JOINT WHERE CONCRETE ABUTS CONCRETE CURBS, SIDEWALKS DRIVEWAYS.
3. SIDEWALK SHALL COMPLY WITH F.D.O.T. INDEX No. 515 AND PINELLAS COUNTY ORDINANCES. (SEE INDEX No. 1340)
4. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
5. SIDEWALKS ALONG RURAL CROSS SECTION ROADWAYS WHERE VEHICLES CAN CROSS THE SIDEWALK SHALL BE 6" THICK.

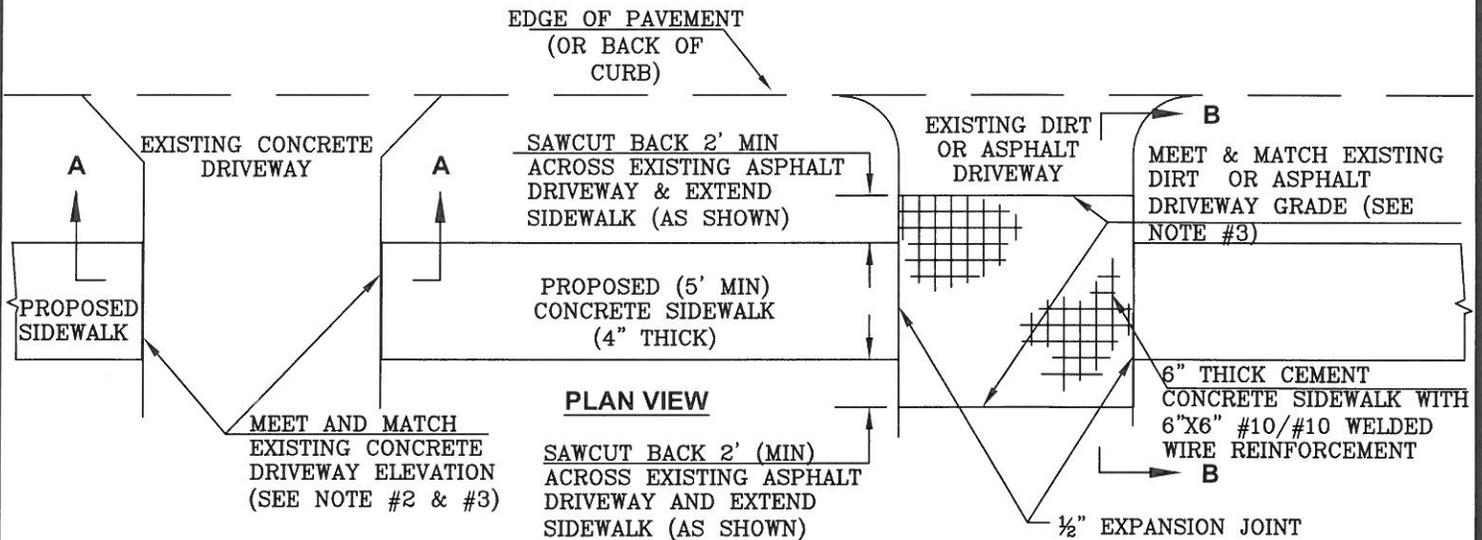


SLOPE TO MATCH EXISTING DRIVEWAY  
REFER TO F.D.O.T. INDEX No. 515  
FOR ADA REQUIREMENTS IF SLOPE  
EXCEEDS 0.02'/FT

MEET AND MATCH  
EXISTING DIRT OR  
ASPHALT DRIVEWAY  
ELEVATION ON EACH  
SIDE



**SECTION B-B**

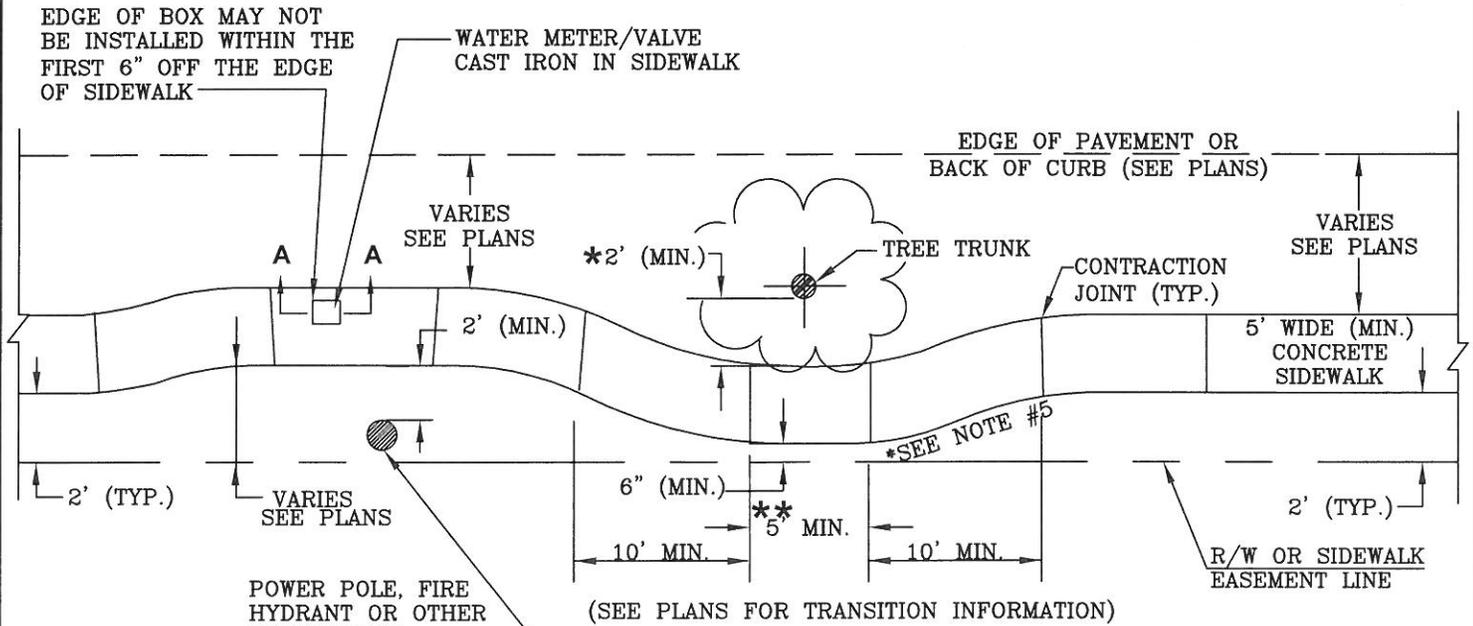


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**SIDEWALK THROUGH EXISTING**  
**DRIVEWAYS**

DETAIL INDEX I.D.:  
 1353  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

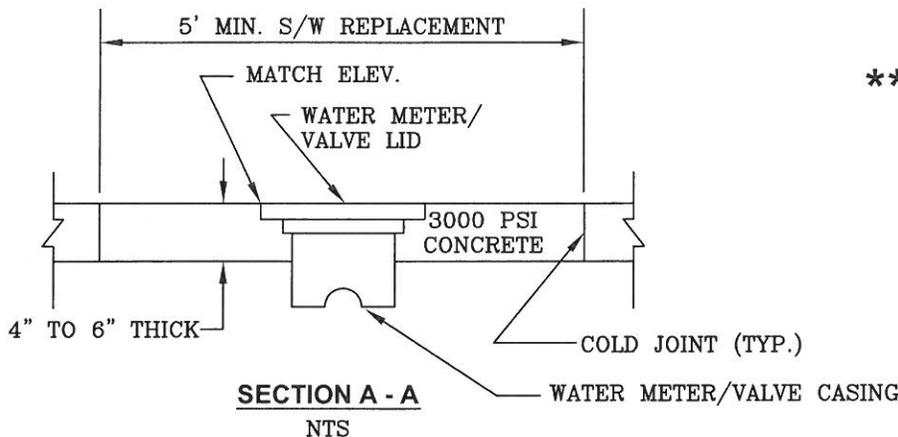
1. ADJUST SIDEWALK TO AVOID OBSTRUCTIONS, AS SHOWN, OR AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH F.D.O.T. MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE FOR STREETS AND HIGHWAYS - LATEST EDITION ("FLORIDA GREEN BOOK").
2. CONSTRUCTION OF SIDEWALKS SHALL MEET ADA REQUIREMENTS AS SPECIFIED IN F.D.O.T. INDEX NOS. 515 AND 304.
3. POWER POLES SHALL BE MOVED WHEN POSSIBLE.
4. TREES SHALL BE PRUNED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANSI-A300 GUIDELINES TO MAINTAIN VERTICAL CLEARANCE: 9 FT. FOR SIDEWALKS AND 18 FT. FOR ROADS.
5. MAXIMUM LATERAL DEFLECTION SHALL BE 5:1.
6. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
7. CONTRACTION JOINTS SHALL MEET F.D.O.T. INDEX No. 310.
8. ANY NECESSARY PRUNING SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANIS-A300 STANDARDS.



**PLAN VIEW**

\*THIS MINIMUM DIMENSION MAY NEED ADJUSTMENT BASED ON THE DIAMETER, HEALTH AND SPECIES OF THE TREE. ADJUSTMENTS REQUIRE PRE-APPROVAL OF THE COUNTY ENGINEER

\*\*CENTERED ON VERTICAL OBSTRUCTION-SIDEWALK SHALL BE 6" THICK ALONG THIS LENGTH (5'-0" MIN.)

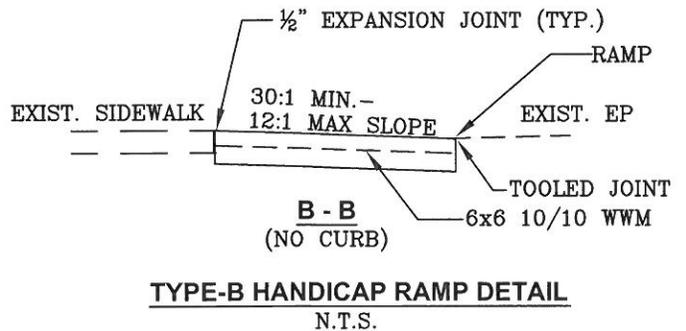
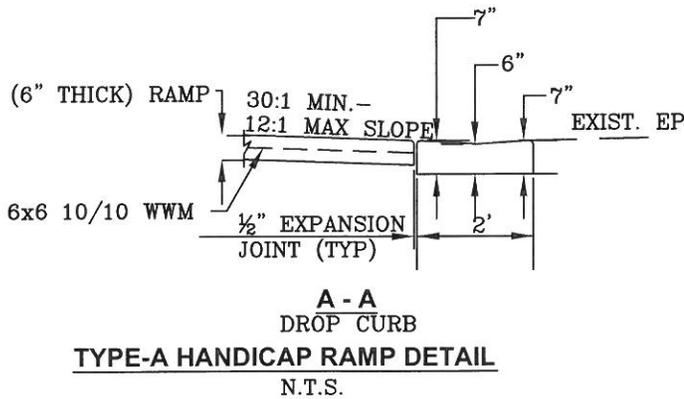
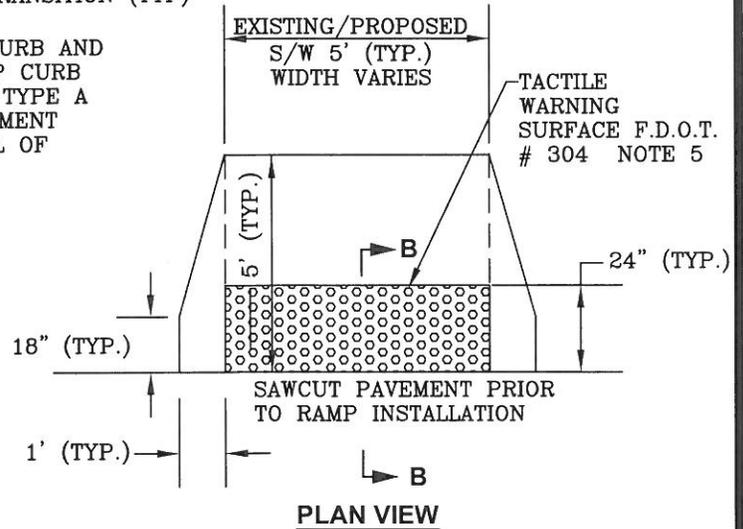
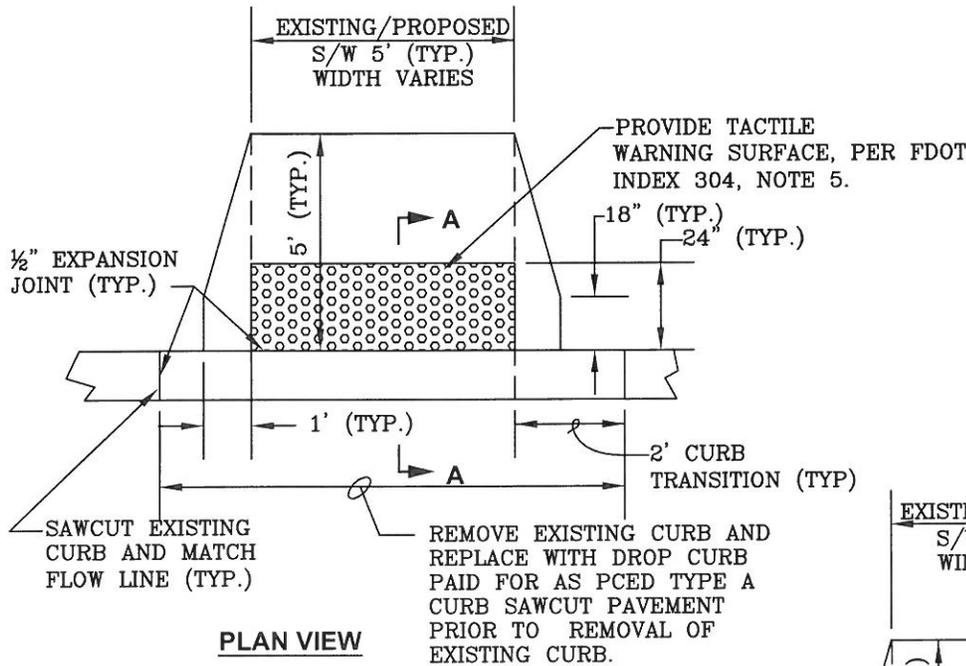


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**GUIDELINES FOR SIDEWALK**  
**ALIGNMENT**

DETAIL INDEX I.D.:  
**1357**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTE:**

1. 6" THICK w/6x6 10/10 WWM REINFORCED CLASS I (3000 PSI) CONCRETE RAMP (TYP. FOR TYPE A & B).



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**P.C.E.D. TYPE "A" AND "B"**  
**HANDICAP RAMP DETAIL**

DETAIL INDEX I.D.:

1360

DATE: **SEPTEMBER/2012**

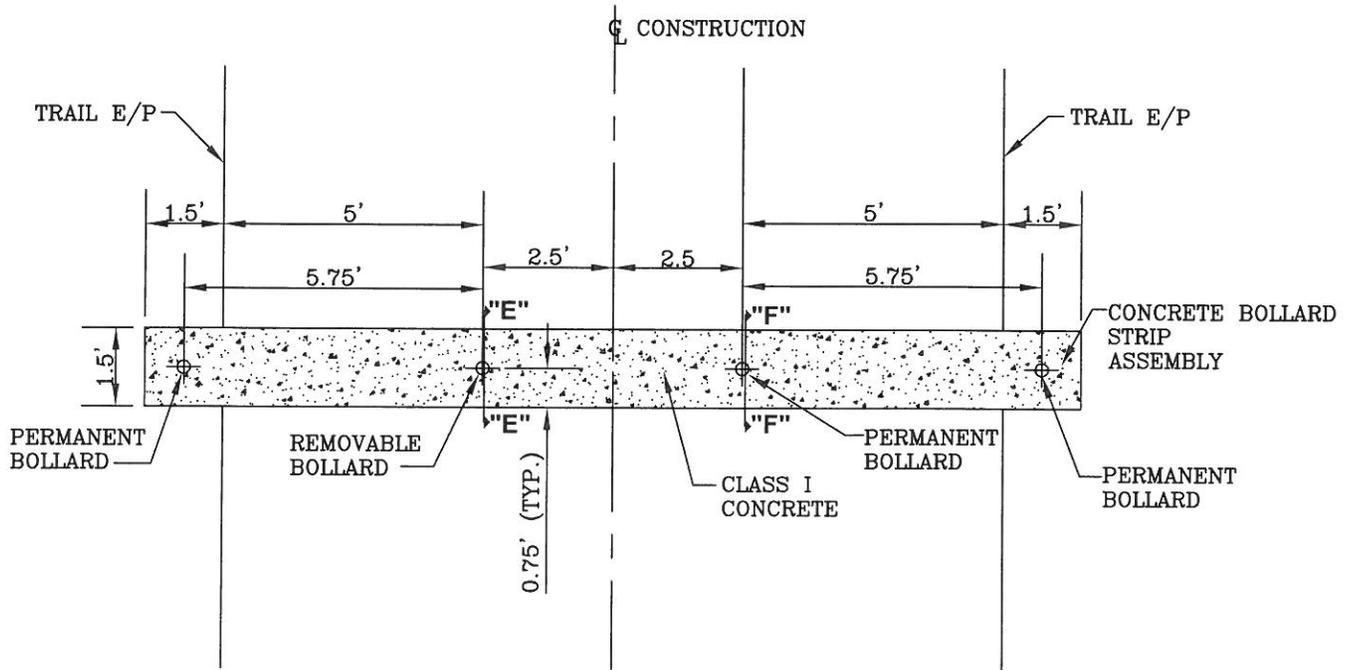
DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

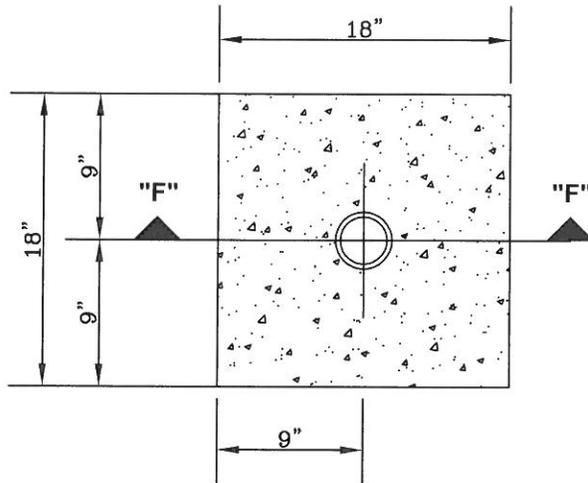


**NOTES:**

1. ALL BOLLARDS CONSTRUCTED WITHIN THE CONCRETE BOLLARD ASSEMBLY ARE PAID FOR UNDER CONCRETE BOLLARD STRIP ASSEMBLY.
2. ALL BOLLARDS CONSTRUCTED OUTSIDE OF THE CONCRETE BOLLARD STRIP ASSEMBLY ARE PAID FOR UNDER A SEPERATE PAY ITEM UNLESS OTHERWISE NOTED.



**DETAIL "C"**  
NOT TO SCALE



**DETAIL "D"**  
NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
 P.C.E.D. TRAIL INTERSECTION  
 CROSSING DETAIL - SHEET 2 OF 5

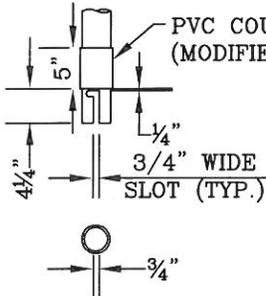
1365-SHT.2

DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

**NOTES:**

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM CONTROL DEVICES.
2. TRAIL TO HAVE THE TYPICAL SIGNING AND PAVEMENT MARKINGS AS DESIGNATED ON THESE PLANS. REFER TO PAY ITEM 710-12.
3. ALL SIGNAGE TO BE ERECTED ALONG TRAIL IS TO BE OFFSET 4' FROM EDGE OF PAVEMENT TO NEAREST EDGE OF SIGN AND 7' FROM THE PROPOSED GRADE TO THE BOTTOM OF THE SIGN.
4. 6" WIDE 3MTM PRESSURE SENSITIVE, HIGH-INTENSITY GRADE REFLECTOR SETTING, COLOR RED, PRODUCT #3872, TO BE PLACED ON ALL BOLLARDS. OVERLAP ENDS OF SHEETING BY 1/4" MINIMUM.
5. ALL BOLLARDS CONSTRUCTED WITHIN THE CONCRETE BOLLARD ASSEMBLY ARE PAID FOR UNDER CONCRETE BOLLARD STRIP ASSEMBLY.
6. ALL BOLLARDS CONSTRUCTED OUTSIDE OF THE CONCRETE BOLLARD STRIP ASSEMBLY ARE PAID FOR UNDER A SEPERATE PAY ITEM UNLESS OTHERWISE NOTED.

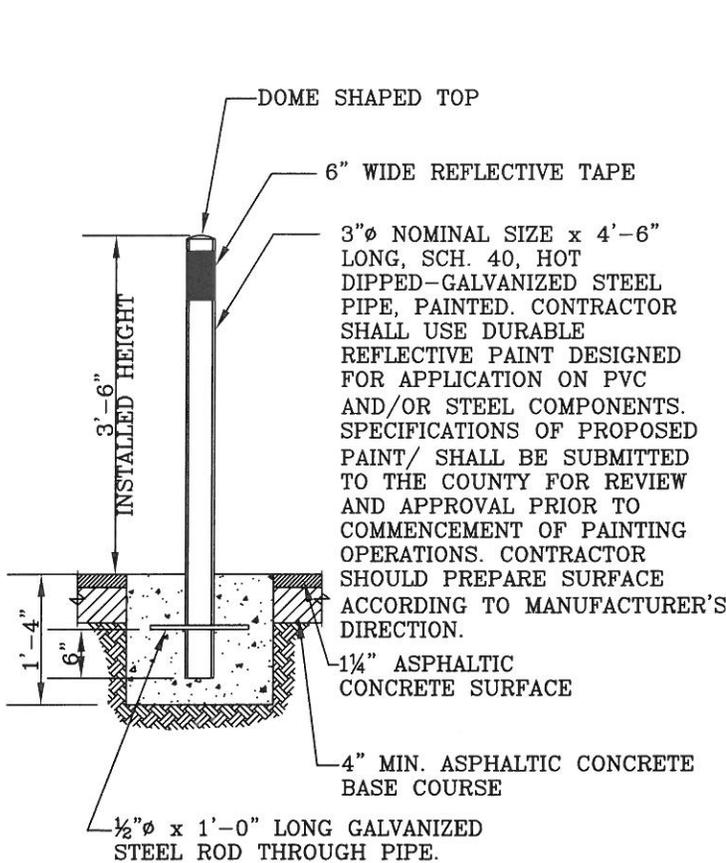


**NOTE:**

3" P.V.C. COUPLING SHALL BE MACHINED FOR A SLIP-FIT. UNIFORM INSIDE  $\phi$  IN ORDER TO ALLOW THE COUPLING TO BE SOLVENT WELDED AT THE POSITION SHOWN. THE OUTSIDE  $\phi$  SHALL BE MACHINED TO ALLOW THE COUPLING TO SLIDE FREELY WITHIN THE 4" P.V.C. PIPE EMBEDDED IN CONCRETE AS SHOWN IN THE REMOVABLE BOLLARD DETAIL.

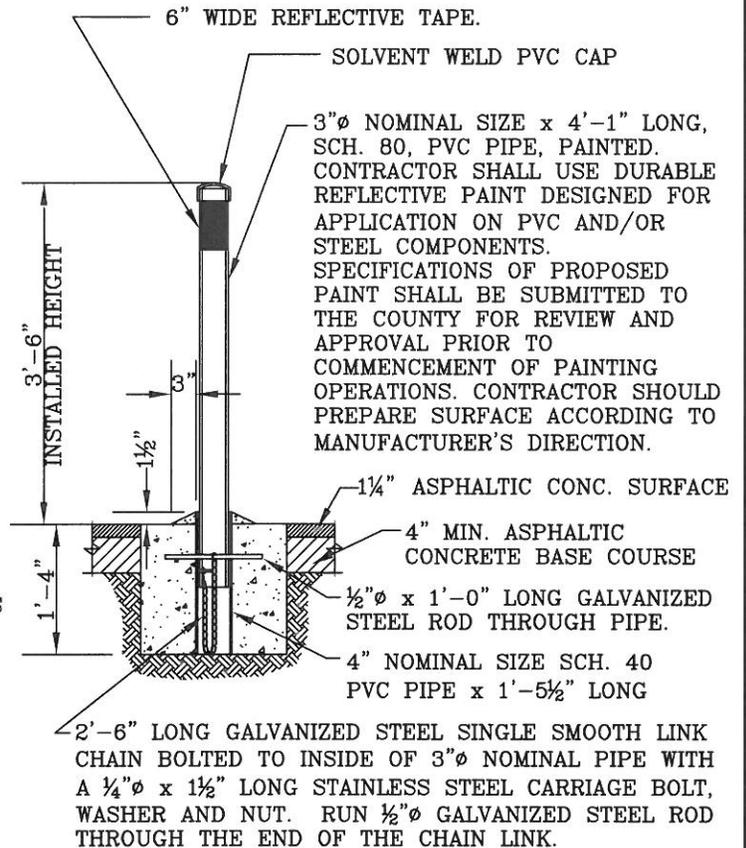
**SLOT AND COUPLING DETAIL**

NOT TO SCALE



**PERMANENT BOLLARD DETAIL "F"**

NOT TO SCALE



**REMOVABLE BOLLARD DETAIL "E"**

NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**P.C.E.D. TRAIL INTERSECTION**  
**CROSSING DETAIL - SHEET 3 OF 5**

DETAIL INDEX I.D.:

1365-SHT.3

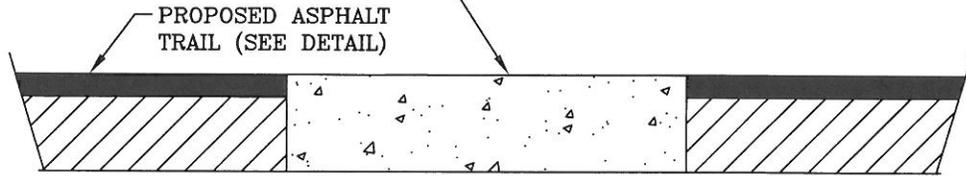
DATE:

SEPTEMBER/2012

DIV. DIRECTOR OF ENG & TECH. SUPPORT

REVISION:

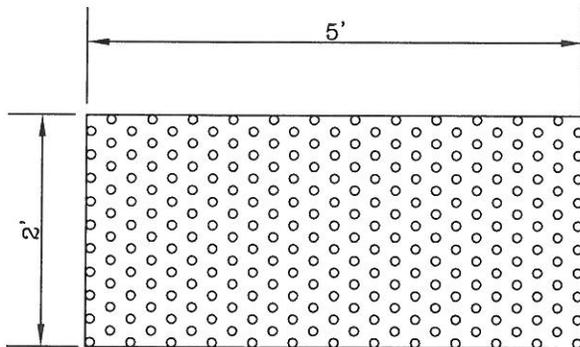
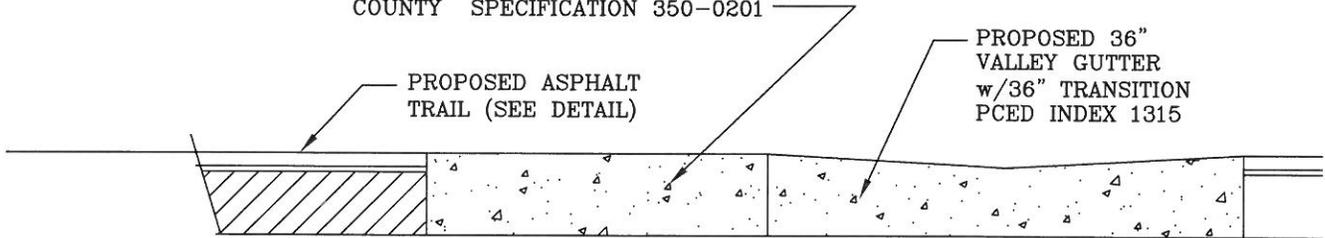
PROPOSED WARNING STRIP  
 5' WIDE X 6" DEEP (MIN.)  
 6" CLASS I CONCRETE  
 w/6X6-10/10 W.W.F.,  
 PLACE ON COMPACTED SUBGRADE IN  
 ACCORDANCE WITH PINELLAS COUNTY  
 SPECIFICATION 350-0201



**WARNING STRIP DETAIL "G"**

(SEE PLANS FOR LOCATION)

PROPOSED DETECTABLE WARNING  
 STRIP 24" WIDE X 6" DEEP (MIN.)  
 6" CLASS I CONCRETE  
 W/ 6X6-10/10 W.W.F.,  
 PLACE ON COMPACTED SUBGRADE  
 IN ACCORDANCE WITH PINELLAS  
 COUNTY SPECIFICATION 350-0201



TRUNCATED DOME  
 (TYPE AND COLOR)  
 AS PER PINELLAS COUNTY  
 SPECIFICATION 522

**DETECTABLE WARNING  
 STRIP DETAIL "H"**

NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

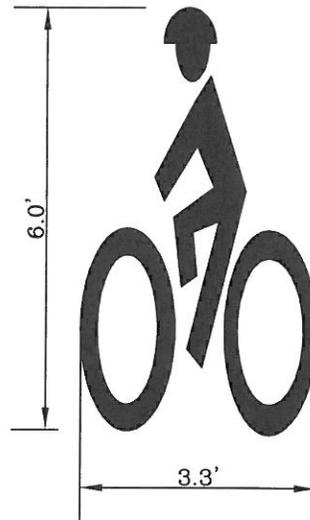
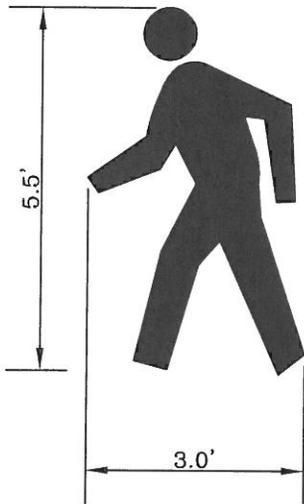
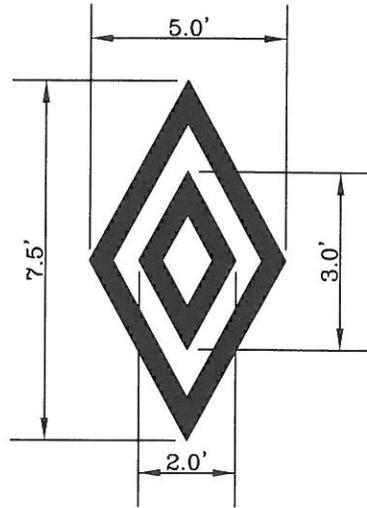
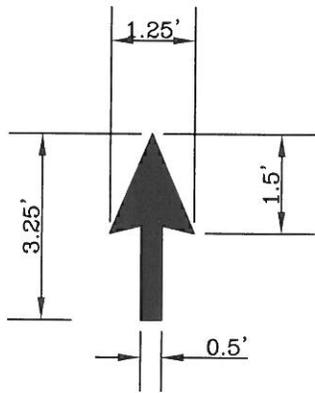
P.C.E.D. TRAIL INTERSECTION  
 CROSSING DETAIL - SHEET 4 OF 5

DETAIL INDEX I.D.:  
 1365-SHT.4

DATE: SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:



**PAVEMENT MESSAGE DIMENSIONS**  
**ALL MARKINGS ARE WHITE**  
 NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**P.C.E.D. TRAIL INTERSECTION**  
**CROSSING DETAIL - SHEET 5 OF 5**

DETAIL INDEX I.D.:  
**1365-SHT.5**

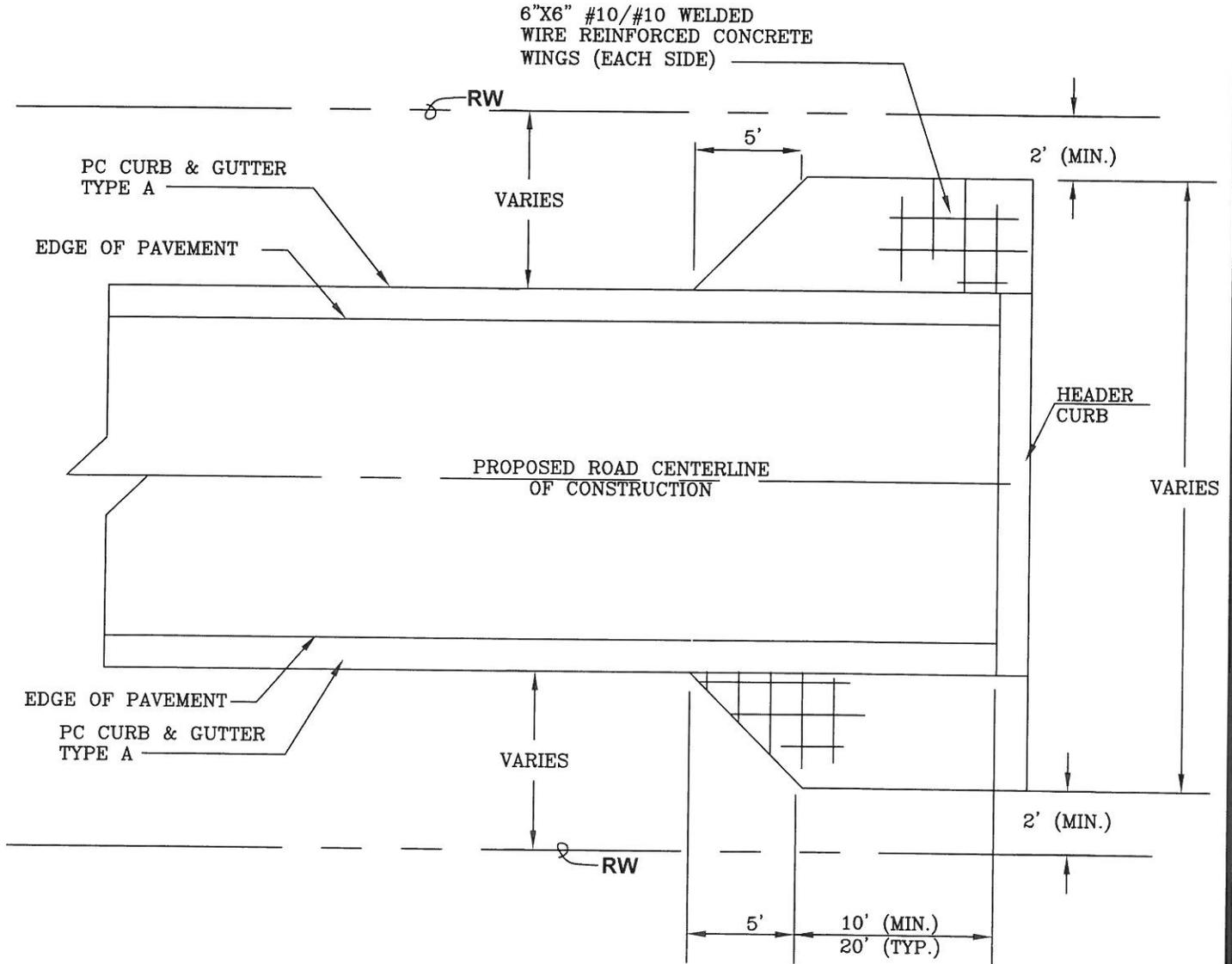
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTE:**

1. SEE PLANS FOR LOCATION OF BARRICADES AND REFLECTORS (INDEX No. 1406).



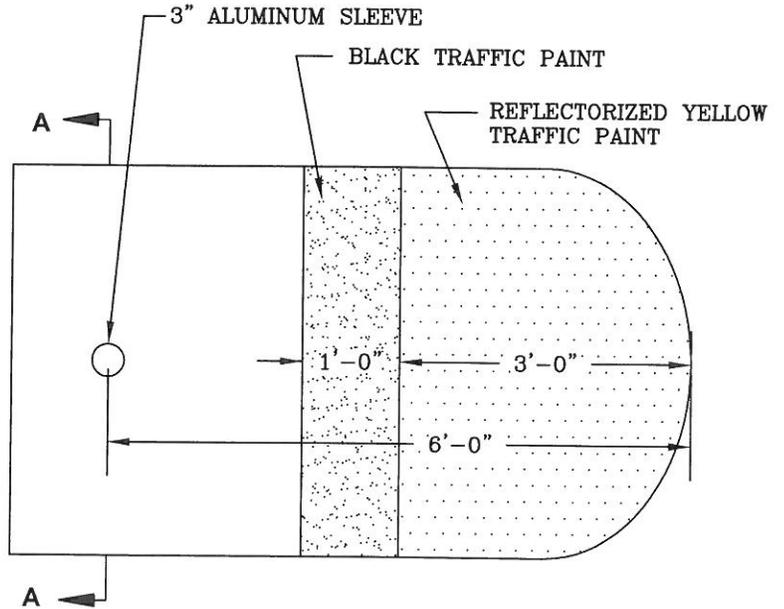
**PLAN VIEW**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**DEAD END STREET**  
**TURN-AROUND**

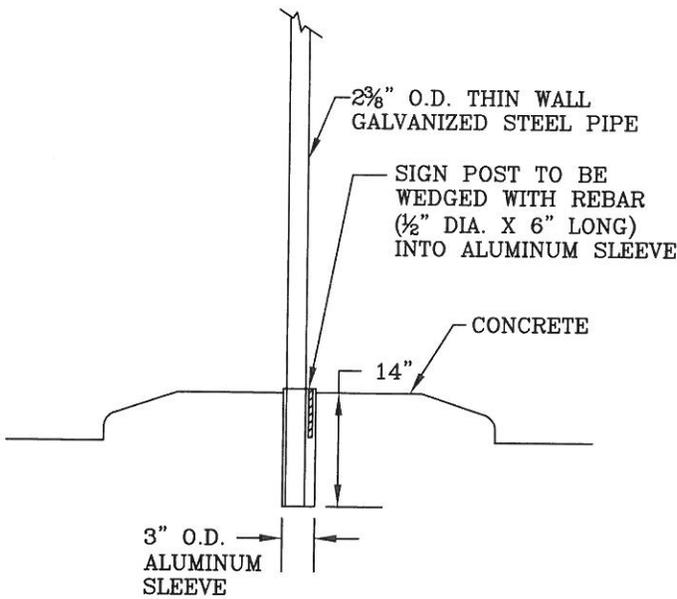
DETAIL INDEX I.D.:  
**1375**  
DATE: **SEPTEMBER/2012**  
DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
REVISION: *[Signature]*

**NOTE:**

1. THE USE OF ALUMINUM SLEEVES SHALL BE APPLICABLE FOR ALL CASES WHERE A SIGN POST IS PLACED IN CONCRETE (I.E., SIDEWALKS, ETC.). WHEN PLACED IN A CONCRETE MEDIAN OR TRAFFIC SEPARATOR, IT SHALL BE CENTERED 6' FROM NOSE END, UNLESS OTHERWISE SPECIFIED IN THE PLANS.



**TOP VIEW  
MEDIAN NOSE  
N.T.S.**



**SECTION A-A  
N.T.S.**

**PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
(D.E.I.)  
TRAFFIC SIGN INSTALLATION  
INTO CONCRETE**

DETAIL INDEX I.D.:

1380

DATE:

SEPTEMBER / 2012

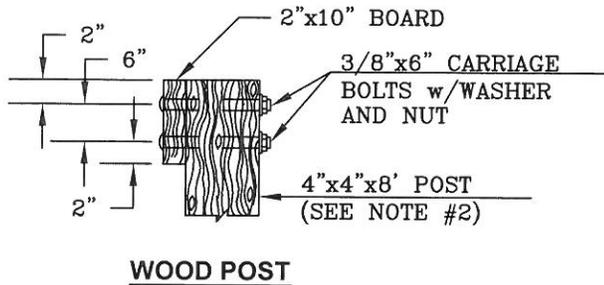
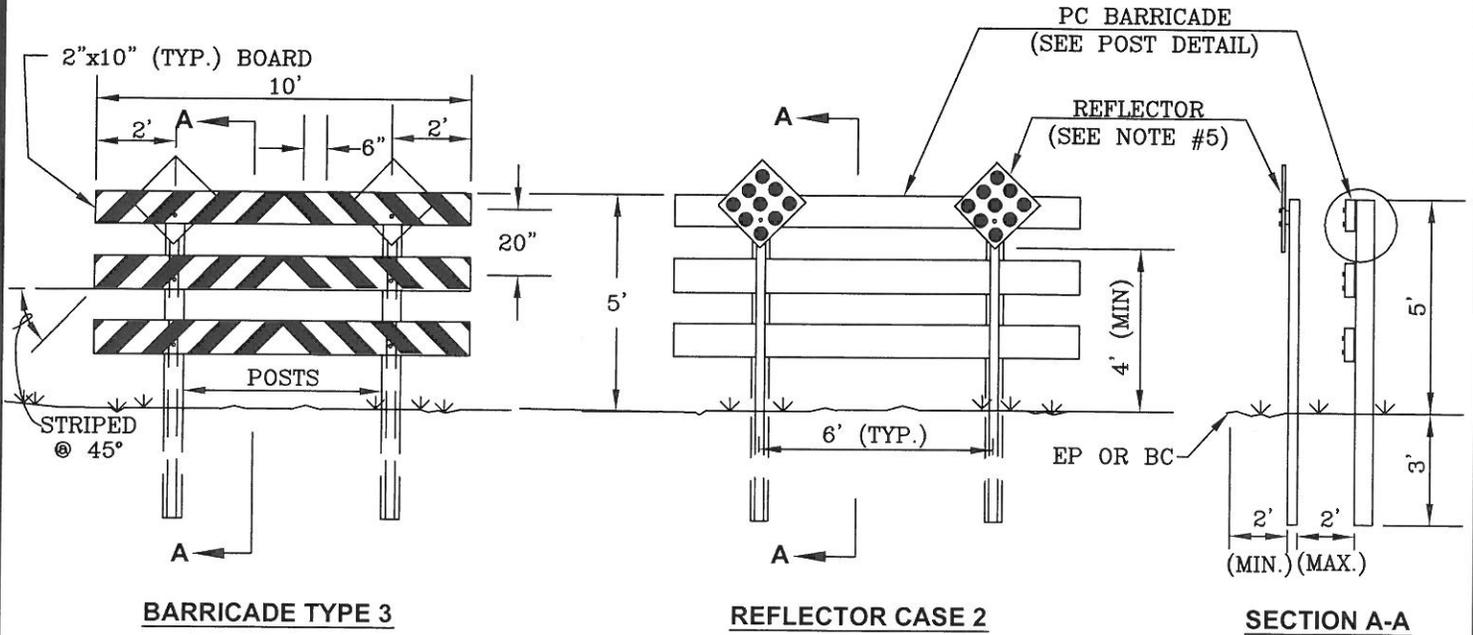
DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

*[Handwritten Signature]*

**NOTES:**

1. STRIPES SHALL BE WHITE AND ORANGE FOR TEMPORARY BARRICADE DURING CONSTRUCTION PHASE AND WHITE AND RED FOR PERMANENT BARRICADE WITH A MATERIAL THAT HAS A HIGH INTENSITY AND SMOOTH SEALED OUTER SURFACE. USE ONLY PRESSURE TREATED POSTS (ASTM D-1760 PRESSURE TREATMENT OF TIMBER PRODUCTS).
2. USE ONLY GALVANIZED COATED HARDWARE.
3. THE SPACING OF REFLECTORS SHALL ALIGN WITH BARRICADE POSTS.
4. REFLECTOR PANEL AND POST ASSEMBLY SHALL COMPLY WITH F.D.O.T. INDEX No.17349 FOR CASE 2 AND SECTION 994 OF F.D.O.T. SPECIFICATIONS.



**PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
(D.E.I.)**

**BARRICADE WITH REFLECTORS**

DETAIL INDEX I.D.:

1406

DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**SEE INDEX NO. 1291**

**PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
(D.E.I.)  
TRENCH BACKFILL  
DETAIL**

DETAIL INDEX I.D.:

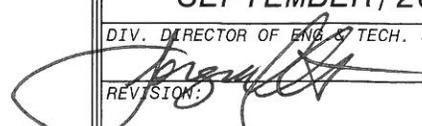
**PCU GD 1**

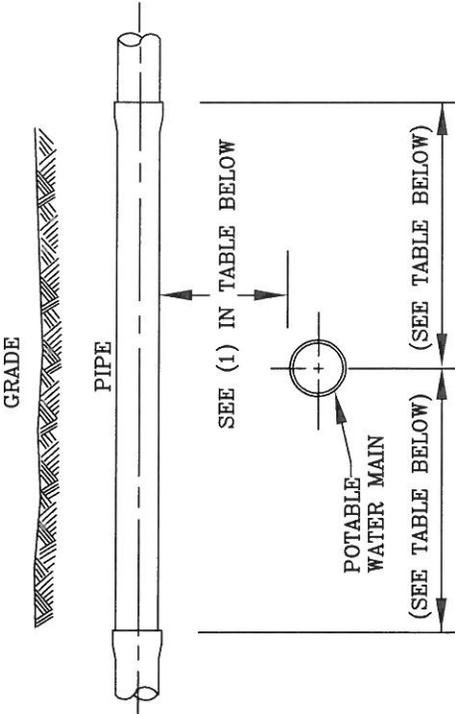
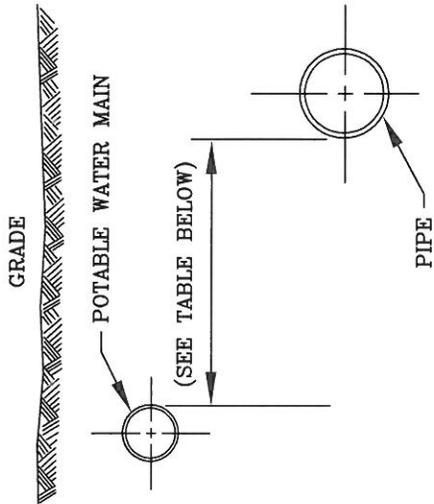
DATE:

**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:





HORIZONTAL CLEARANCE  
(N.T.S.)

VERTICAL CLEARANCE  
(N.T.S.)

PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS
VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	(FULL JOINT CENTERED, ALTERNATE 3 FT. MINIMUM FROM ALL JOINTS)
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	(FULL JOINT CENTERED, ALTERNATE 6 FT. MINIMUM FROM ALL JOINTS)
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	-	-

NOTES: (IN ACCORDANCE WITH F.A.C. RULE 62-555.314)

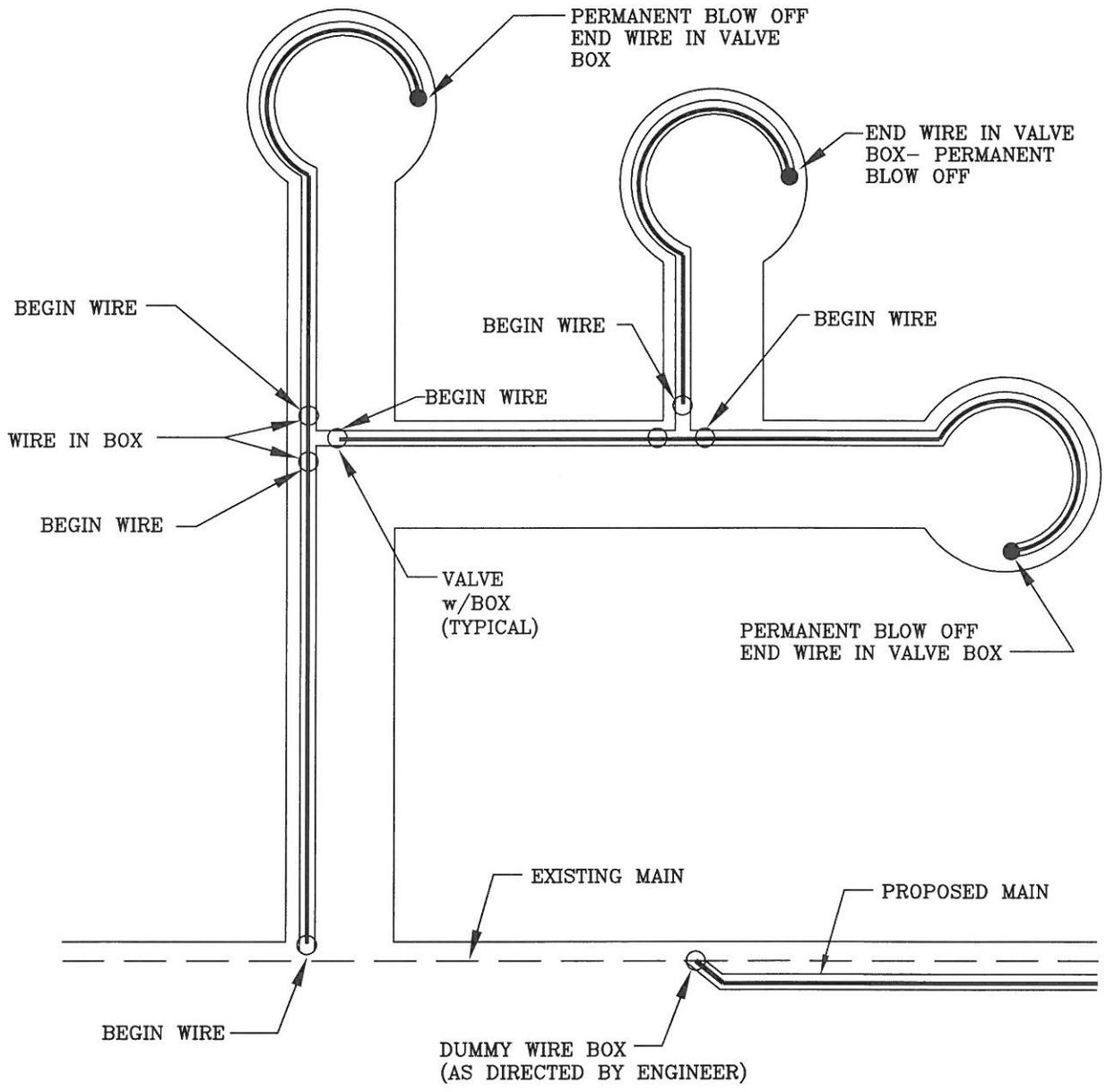
- POTABLE WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN POTABLE WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
- RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
- RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIALS SPECIFICATIONS MANUAL.EE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**MAIN CLEARANCES**  
**DETAIL**

DETAIL INDEX I.D.:  
**PCU GD 2**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

- 1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
- 2. IF STREET IS A SHORT CUL-DE-SAC, LOCATOR WIRE IS TO RUN FROM MAIN VALVE TO BLOW-OFF VALVE BOX.

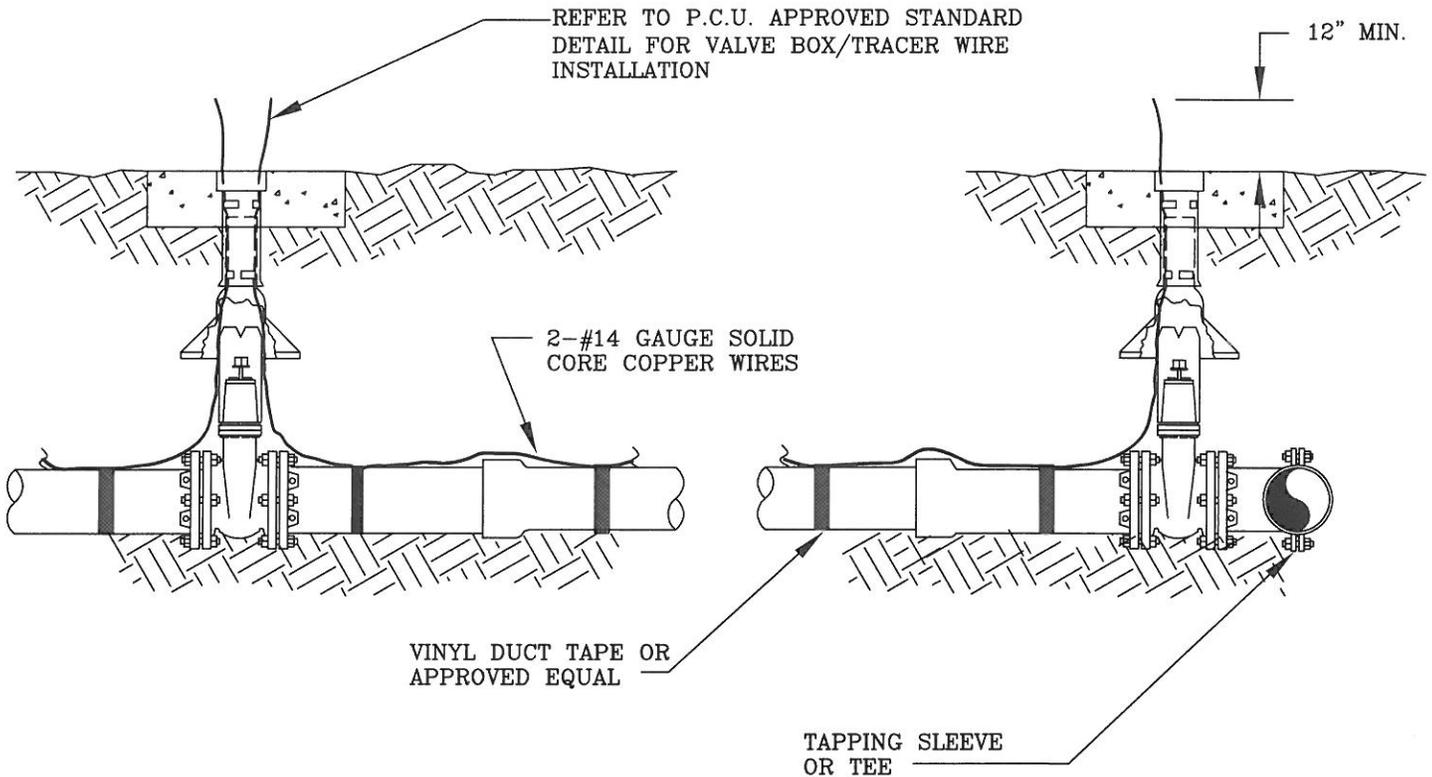


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**TRACER WIRE LAYOUT**  
**DETAIL**

DETAIL INDEX I.D.:  
**PCU GD 3**  
DATE: **SEPTEMBER/2012**  
DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. USE 2-#14 GAUGE (MINIMUM), SOLID CORE COPPER WIRE WITH COLOR CODED INSULATION PER SERVICE.
3. THERE SHALL BE SUFFICIENT SLACK IN TRACER WIRE TO EXTEND A MIN. OF 12" ABOVE VALVE BOX.
4. WIRE IS TO CONTINUE THROUGH TEES ON MAIN LINE WHERE NO VALVES EXIST.
5. ATTACH WIRE TO TOP CENTER LINE OF MAIN USING DUCT TAPE OR APPROVED EQUAL @ 5'- 0" INTERVALS.
6. DUMMY BOXES ARE TO CONSIST OF A TOP SECTION OF A VALVE BOX ASSEMBLY ENCASED IN A CONCRETE VALVE BOX COLLAR PER P.C.U. APPROVED STANDARD DETAIL.

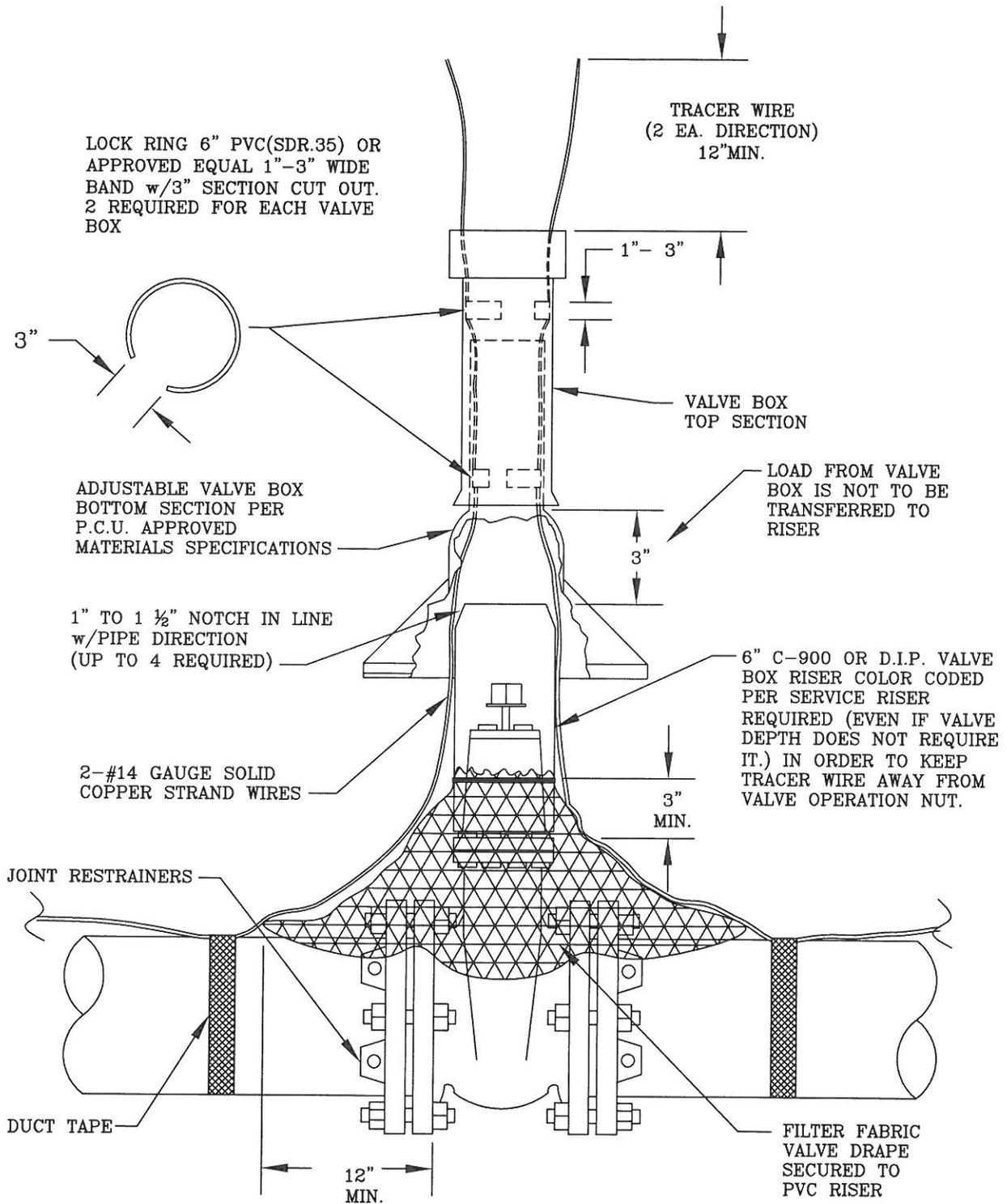


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**TRACER WIRE INSTALLATION**  
**DETAIL**

DETAIL INDEX I.D. :  
**PCU GD 3a**  
DATE: **SEPTEMBER/2012**  
DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. FILTER FABRIC REQUIRED ON VALVES WHEN PIPE LINE HAS 5' OR MORE OF COVER  
 VALVE KEY EXTENSION REQUIRED ON VALVES WITH OPERATOR NUT OVER 3' DEEP.  
 COLOR CODED POLY WRAP REQUIRED ON ALL BURIED VALVES AND FITTINGS.

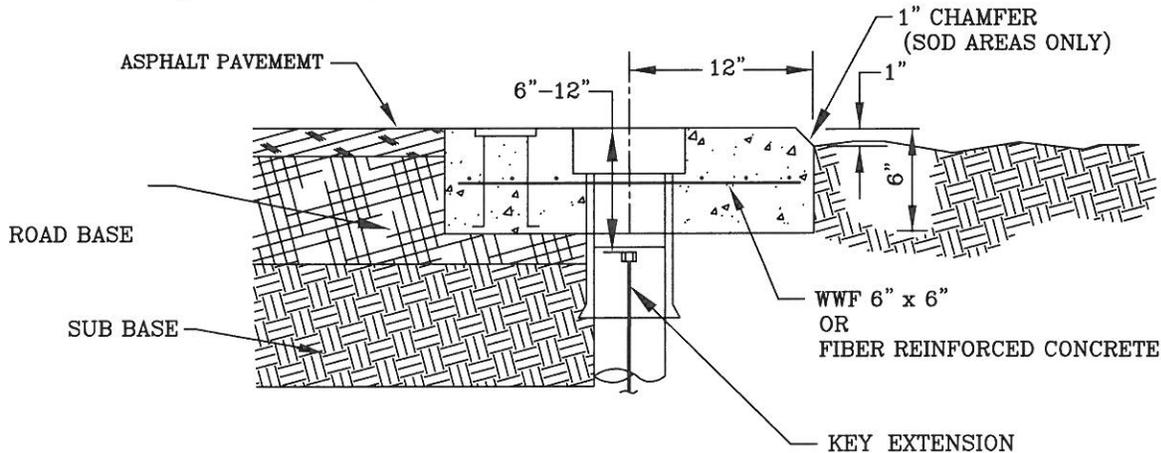


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**VALVE BOX/TRACER WIRE INSTALLION**  
**DETAIL**

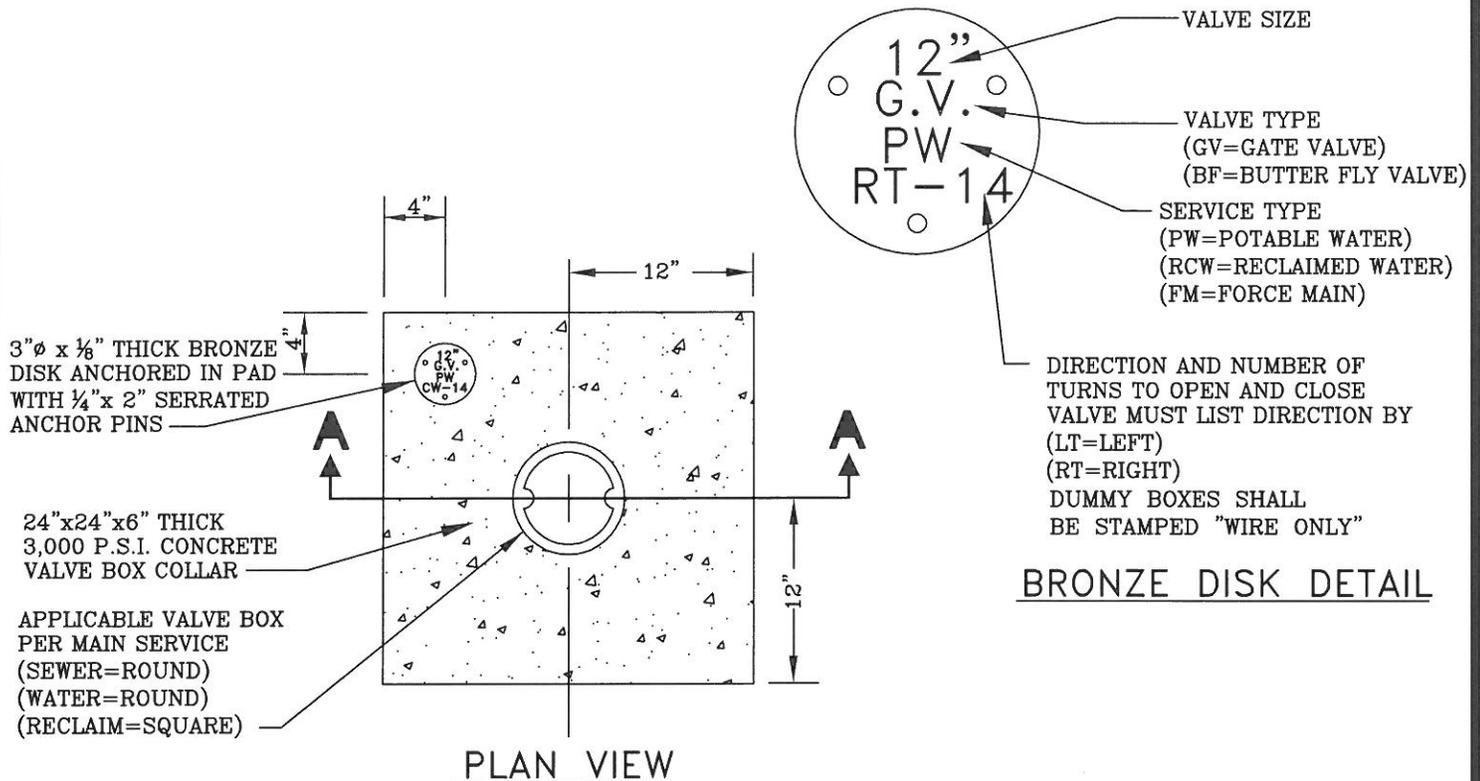
DETAIL INDEX I.D.:	PCU GD 4
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

**NOTES**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF VALVE IS LOCATED WITHIN A SIDEWALK CONCRETE COLLAR MAY BE ELIMINATED AND DISK SET FLUSH DIRECTLY IN SIDEWALK.
3. **BRONZE DISK REQUIRED:** FOR ALL VALVES, AND DUMMY BOXES.
4. THE 24"x24"x6" THICK CONCRETE VALVE BOX COLLAR CAN BE INSTALLED BELOW THE FRICTION COARSE AND THE BRONZE DISK ANCHORED IN A NEAR-BY CURB OR SIDEWALK.
5. ALL VALVES/BOXES SHALL BE LOCATED BY MEANS OF A PERPENDICULAR 6"x2' BLUE STRIPE ACROSS THE CURB. THE DISTANCE FROM THE BACK OF THE CURB TO THE VALVE SHALL BE STENCILED ON THE CURB WITH NUMBERS FOUR INCHES HIGH, PAINTED BLUE, BY THE CONTRACTOR.



**SECTION A-A**

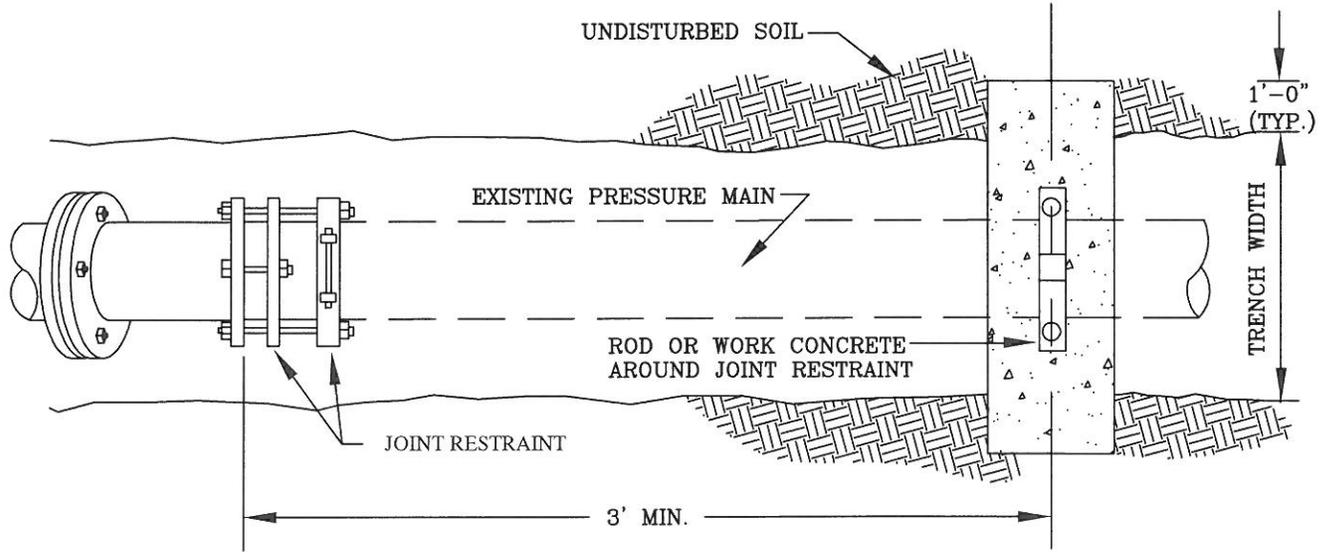


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**CONCRETE VALVE BOX AND COLLAR**  
**DETAIL**

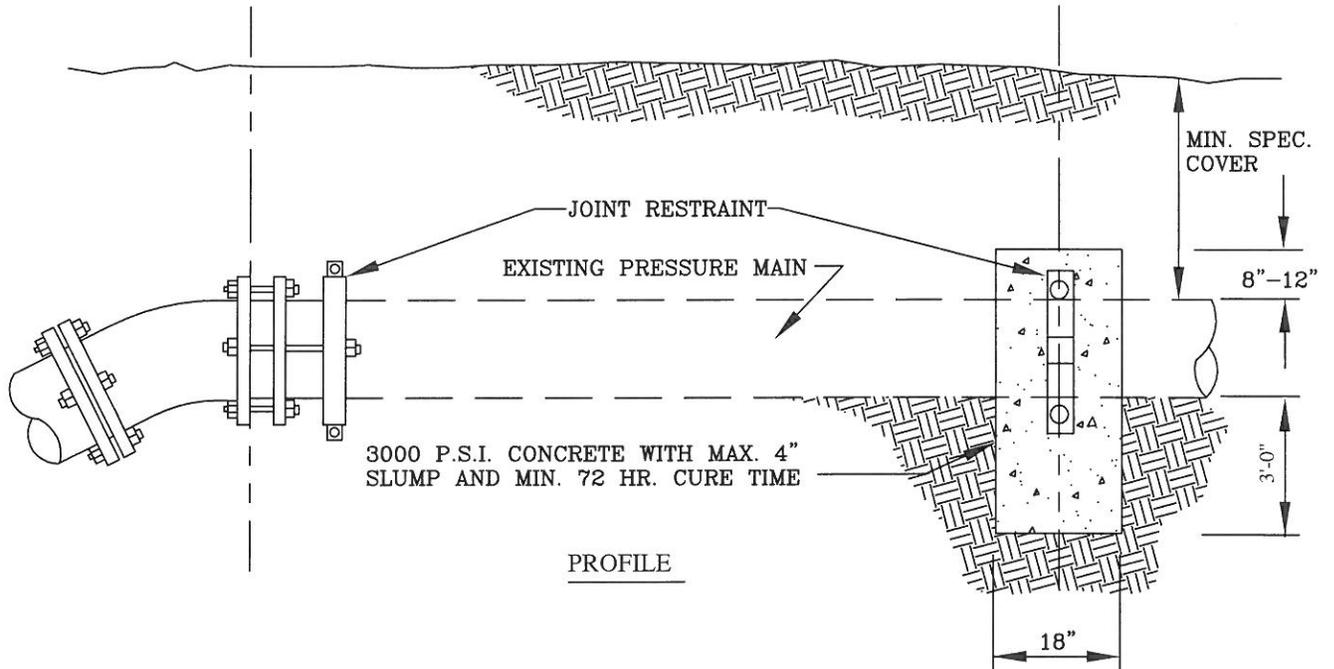
DETAIL INDEX I.D.:	PCU GD 5
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. FITTING CONNECTION TO EXISTING PIPE AND REVERSE DEADMAN MUST BE PART OF ONE INTEGRAL JOINT OF PIPE.
3. REVERSE DEADMAN FOR 16" AND LARGER PIPES SHALL BE DESIGNED BY ENGINEER.



PLAN



PROFILE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**REVERSE DEADMAN RESTRAINT**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU GD 6**

DATE:

**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

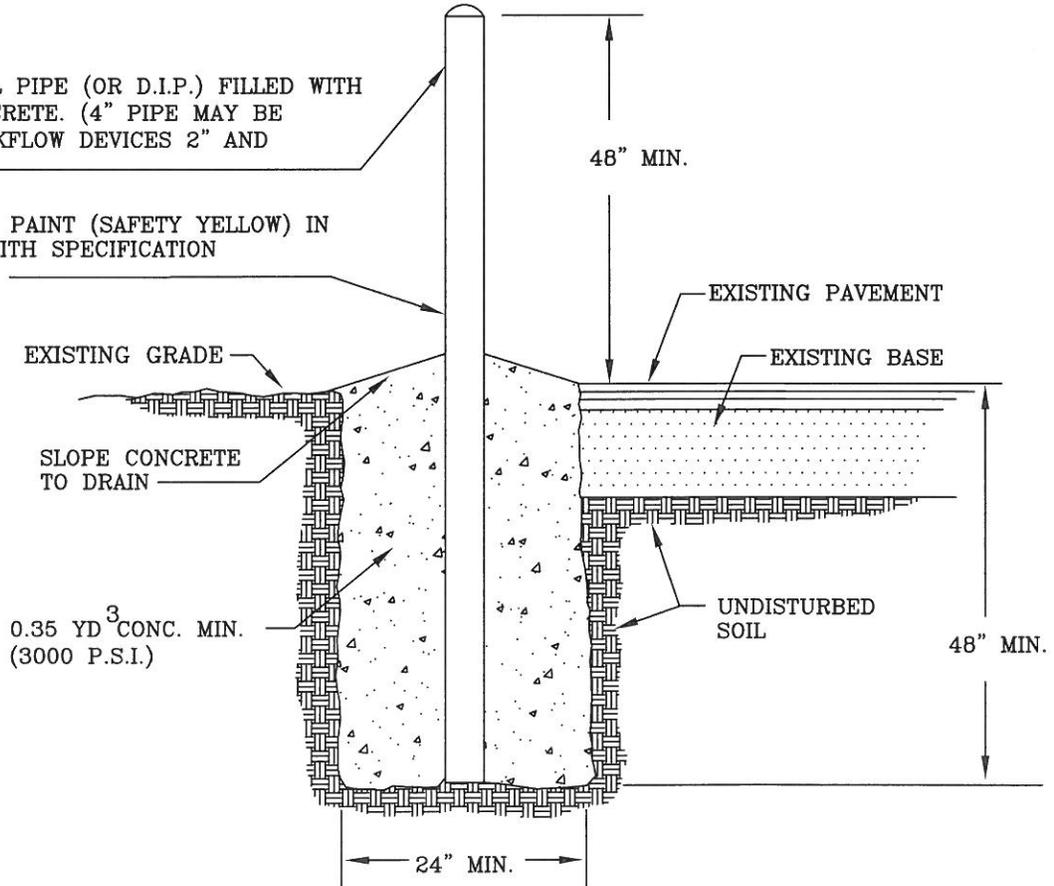
REVISION:

**NOTE:**

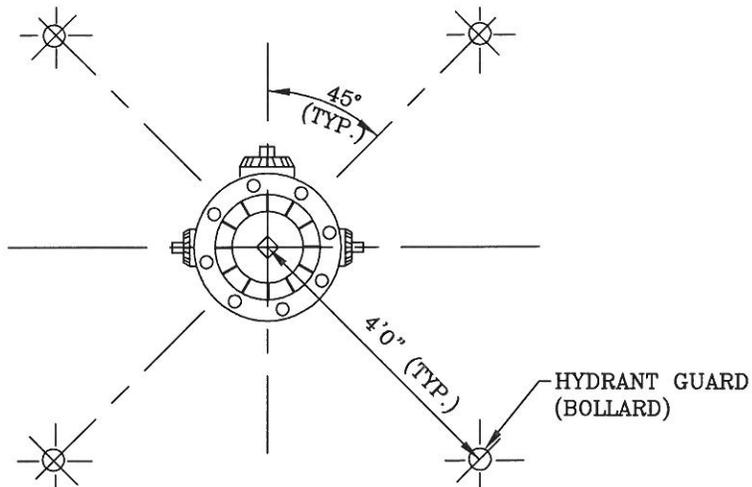
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.

6" SCH. 40 STEEL PIPE (OR D.I.P.) FILLED WITH AND SET IN CONCRETE. (4" PIPE MAY BE UTILIZED ON BACKFLOW DEVICES 2" AND SMALLER)

TWO COATS OF PAINT (SAFETY YELLOW) IN ACCORDANCE WITH SPECIFICATION ASTM D422-05



**INSTALLATION**



**LAYOUT**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**BOLLARD**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU GD 7**

DATE:

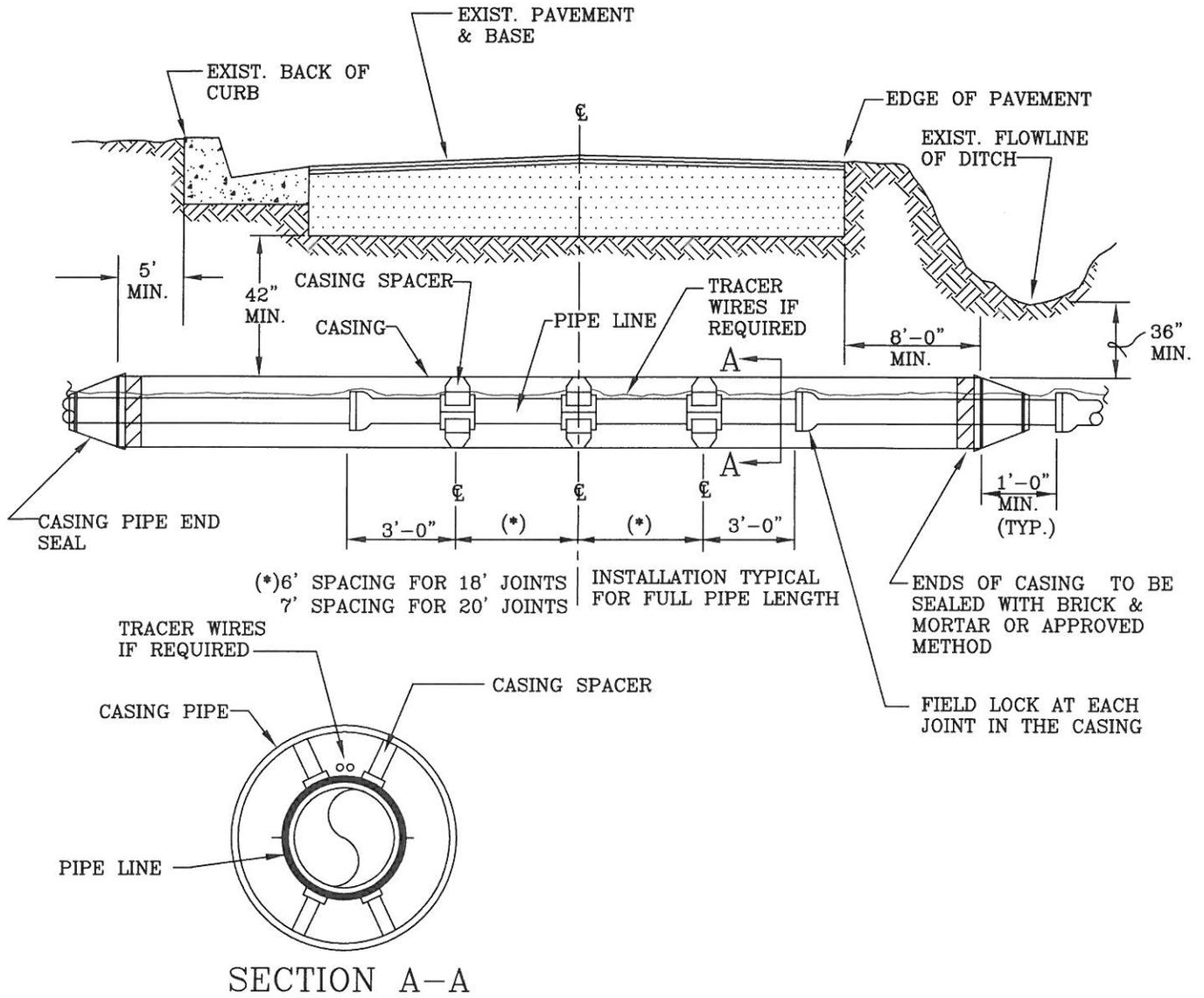
**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF DISTANCE FROM PIPE JOINT TO END OF CASING IS 6' OR LESS, NO SPACER IS REQUIRED.
3. SPACER TO BE INSTALLED OVER POLY WRAP.
4. ALL PIPE IN JACK AND BORE CASING SHALL BE D.I.P. WITH ALL JOINTS RESTRAINED.



(\* ) 6' SPACING FOR 18' JOINTS | INSTALLATION TYPICAL FOR FULL PIPE LENGTH  
 (\* ) 7' SPACING FOR 20' JOINTS

ENDS OF CASING TO BE SEALED WITH BRICK & MORTAR OR APPROVED METHOD

FIELD LOCK AT EACH JOINT IN THE CASING

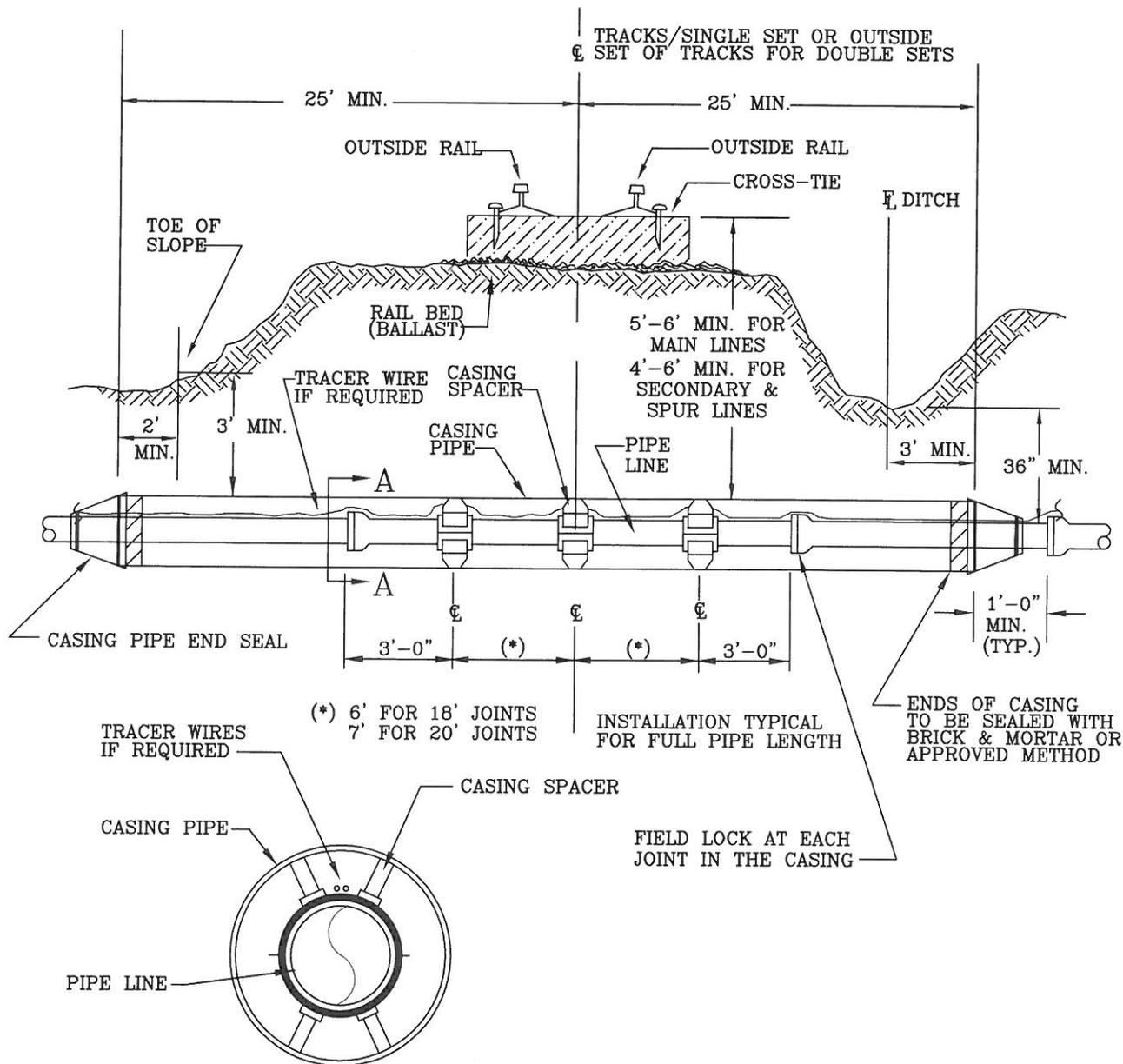
CARRIER & CASING SIZES									
WATER MAIN	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	8"	12"	16"	20"	24"	28"	32"	36"	40"
CASING / WALL THICKNESS	.188	.188	.219	.250	.281	.344	.406	.406	.500

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**JACK AND BORE UNDER ROADWAY**  
**DETAIL**

DETAIL INDEX I.D.:  
**PCU GD 8**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF DISTANCE FROM PIPE JOINT TO END OF CASING IS 6' OR LESS, NO SPACER IS REQUIRED.
3. CENTERLINE OF TRACKS IS DETERMINED AS CENTERLINE OF A SINGLE TRACK SET OR OUTSIDE SET OF TRACKS FOR DOUBLE SET.
4. SPACER TO BE INSTALLED OVER POLY WRAP.
5. ALL PIPE IN JACK AND BORE CASING SHALL BE D.I. PIPE WITH ALL JOINTS RESTRAINED.



**SECTION A-A**

CARRIER & CASING SIZES									
CARRIER / WATER MAIN	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	8"	12"	16"	20"	24"	28"	32"	36"	40"
CASING / WALL THICKNESS	.188	.188	.219	.250	.281	.344	.406	.406	.500

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**JACK AND BORE UNDER RAILWAY**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU GD 9**

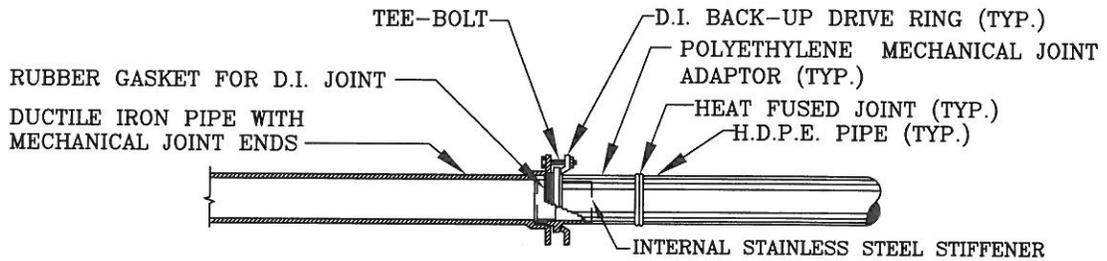
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG & TECH. SUPPORT

REVISION:

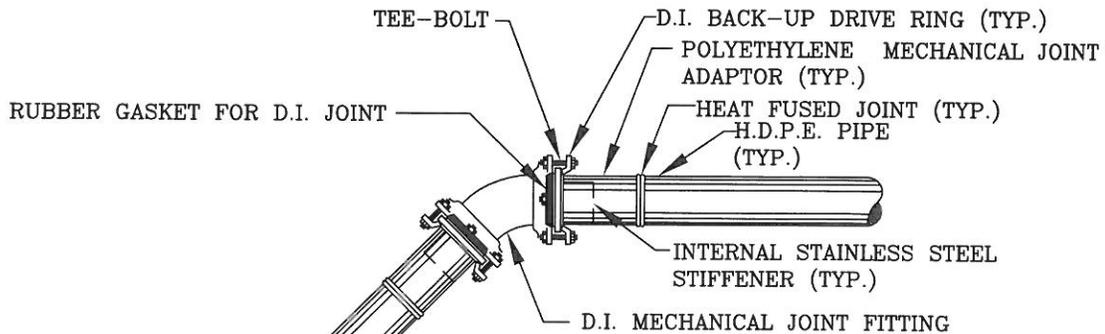
**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL DUCTILE IRON PIPE SHALL BE RESTRAINED.
3. RIGID PIPE CONNECTING TO H.D.P.E. PIPE WILL REQUIRE ADDITIONAL RESTRAINT METHODS OF THE RIGID PIPE AS DIRECTED BY ENGINEER.



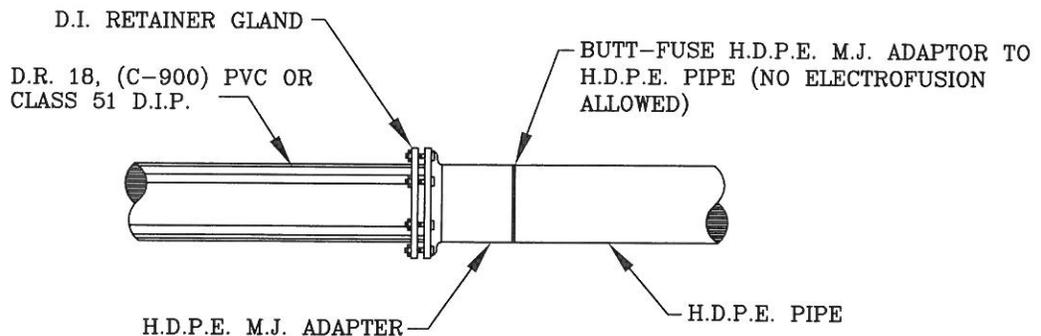
**TYPICAL D.I./HDPE PIPE  
MECHANICAL JOINT ADAPTOR**

NOT TO SCALE



**TYPICAL D.I. FITTING/HDPE  
PIPE CONNECTION DETAIL**

NOT TO SCALE



**TYPICAL PVC/HDPE PIPE  
MECHANICAL JOINT ADAPTER**

NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**FUSIBLE PVC/HDPE PIPE CONNECTIONS**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU GD 10**

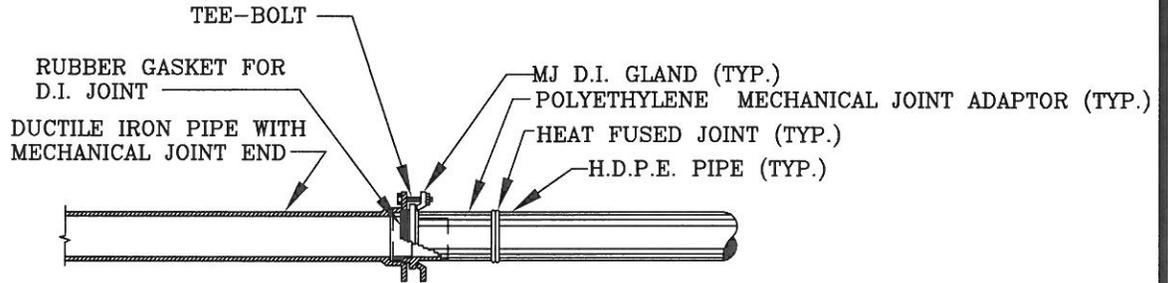
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

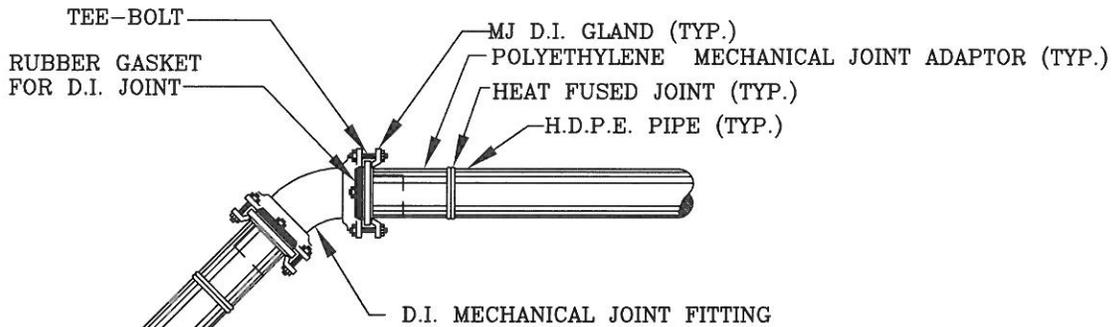
**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL DUCTILE IRON PIPE SHALL BE RESTRAINED.
3. RIGID PIPE CONNECTING TO H.D.P.E. PIPE WILL REQUIRE ADDITIONAL RESTRAINT METHODS OF THE RIGID PIPE AS DIRECTED BY ENGINEER.



**PROFILE VIEW**  
**TYPICAL D.I./HDPE PIPE**  
**MECHANICAL JOINT ADAPTOR**

NOT TO SCALE



**PROFILE VIEW**  
**TYPICAL D.I. FITTING/HDPE**  
**PIPE CONNECTION DETAIL**

NOT TO SCALE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**FUSIBLE PVC/HDPE PIPE CONNECTIONS**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU GD 10a**

DATE:

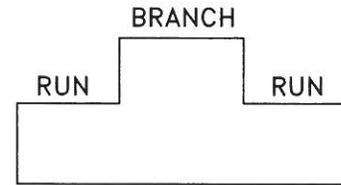
**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION.
2. MANUAL. THIS TABLE SHALL BE UTILIZED FOR ALL PRESSURE MAIN INSTALLATIONS. ALL FITTINGS SHALL BE RESTRAINED TO THE LENGTHS INDICATED, AT A MINIMUM.
3. THIS TABLE WAS DEVELOPED USING THE FOLLOWING ASSUMPTIONS:
  - o D.I. PIPE WITH POLY WRAP
  - o SAFETY FACTOR OF 1.5 TO 1
  - o TEST PRESSURE OF 150 P.S.I.
  - o SOIL TYPE = S.M.
  - o TYPE 3 TRENCH
  - o DEPTH OF COVER = 2.5' UP TO 18" AND 3' FOR 20" AND ABOVE.
4. WHEN A TEE HAS A VALVE ON THE RUN, THE BRANCH AND THE RUNS SHALL BE RESTRAINED AS A 90° BEND FOR THE SIZE OF THE PIPE.
5. ALL BENDS, TEES, AND VALVES SHALL BE RESTRAINED ON EACH SIDE OF THE FITTING.
6. ALL RESTRAINED PIPE LENGTHS ARE IN FEET.
7. "F" REPRESENTS THE RESTRAINED JOINTS AT THE FITTINGS.
8. HDPE TRANSITION VALVE IS FOR STRAIGHT TIE-INS, IF A BEND IS USED, THE VALVE FOR THE BEND MUST BE ADDED.
9. LINE VALVES SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM AS A DEAD END.



PIPE SIZE	FITTINGS					
	TEE BRANCH ONLY	90°	45°	22½°	11¼°	DEAD END
2"	F	40	17	F	F	40
4"	19	49	20	10	5	49
6"	33	69	28	14	7	69
8"	58	88	37	18	9	88
10"	76	107	44	21	11	107
12"	93	125	52	25	12	125
14"	110	142	59	28	14	142
16"	127	159	66	32	16	159
18"	143	175	73	35	17	175
20"	132	164	68	33	16	164
24"	159	192	79	38	19	192
30"	195	229	95	46	23	229
36"	230	264	109	53	26	264

FITTINGS			
REDUCERS			LARGER PIPE
LG. SIZE	SM. SIZE	LENGTH	
4"	2"	17'	24
6"	4"	50'	35
8"	4"	91'	64
	6"	53'	37
10"	4"	123'	87
	6"	93'	66
	8"	51'	36
12"	4"	154'	108
	6"	129'	91
	8"	94'	66
	10"	52'	37
14"	6"	160'	113
	8"	131'	92
	10"	95'	67
	12"	52'	36
16"	6"	190'	134
	8"	165'	116
	10"	134'	94
	12"	96'	67
18"	14"	52'	36
	8"	196'	137
	10"	169'	118
	12"	135'	95
20"	14"	96'	67
	16"	51'	36
	10"	172'	121
	12"	147'	103
24"	14"	117'	82
	16"	82'	58
	18"	44'	30
	12"	201'	141
30"	14"	177'	124
	16"	149'	104
	18"	117'	82
	20"	82'	57
36"	18"	206'	144
	20"	178'	125
	24"	115'	80
36"	20"	258'	180
	24"	207'	144
36"	30"	114'	80

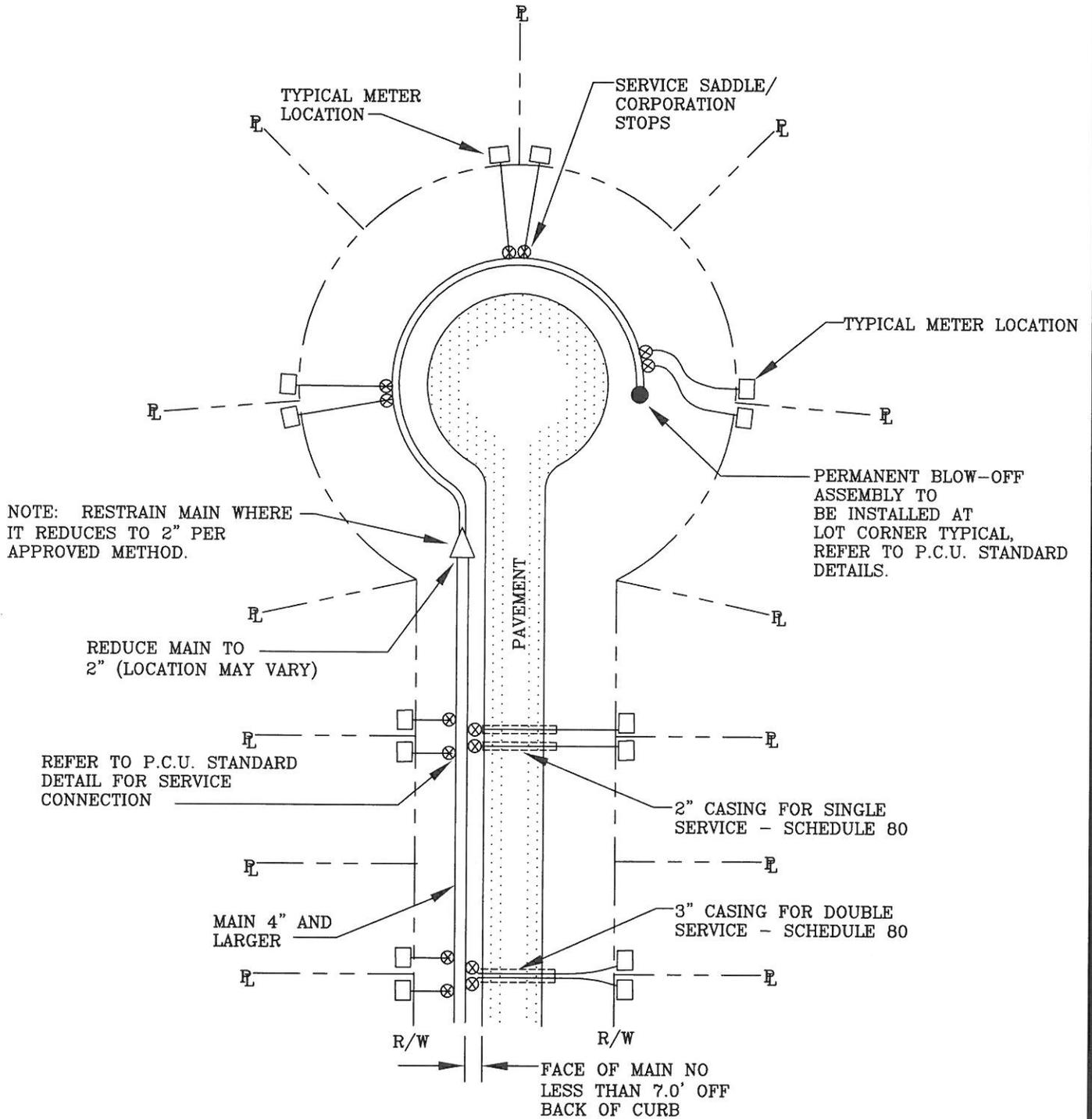
**PRESSURE MAIN RESTRAINED JOINT**

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**PRESSURE MAIN RESTRAINED JOINT**  
**DETAIL**

DETAIL INDEX I.D. :  
**PCU GD 11**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. NO MORE THAN SIX (6) METER CONNECTIONS SHALL BE INSTALLED BETWEEN BLOW-OFF AND REDUCTION TO 2" MAIN.
3. CASINGS TO BE EXTENDED BEYOND E.P. OR B.O.C. IN ACCORDANCE WITH P.C.U. STANDARD DETAILS.



NOTE: RESTRAIN MAIN WHERE IT REDUCES TO 2" PER APPROVED METHOD.

REDUCE MAIN TO 2" (LOCATION MAY VARY)

REFER TO P.C.U. STANDARD DETAIL FOR SERVICE CONNECTION

MAIN 4" AND LARGER

2" CASING FOR SINGLE SERVICE - SCHEDULE 80

3" CASING FOR DOUBLE SERVICE - SCHEDULE 80

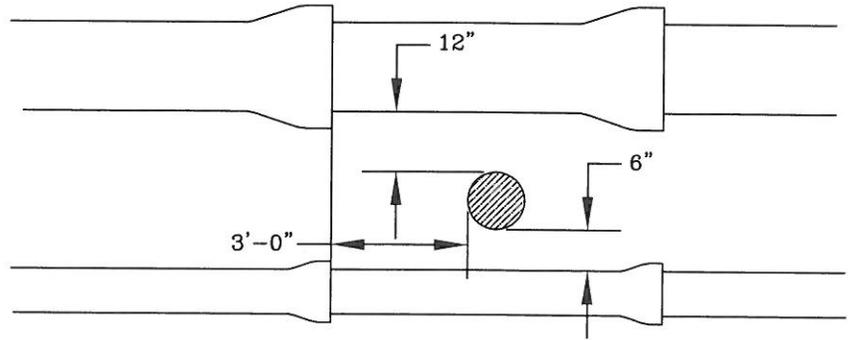
FACE OF MAIN NO LESS THAN 7.0' OFF BACK OF CURB

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**CUL-DE-SAC LAYOUT - POTABLE WATER**  
**DETAIL**

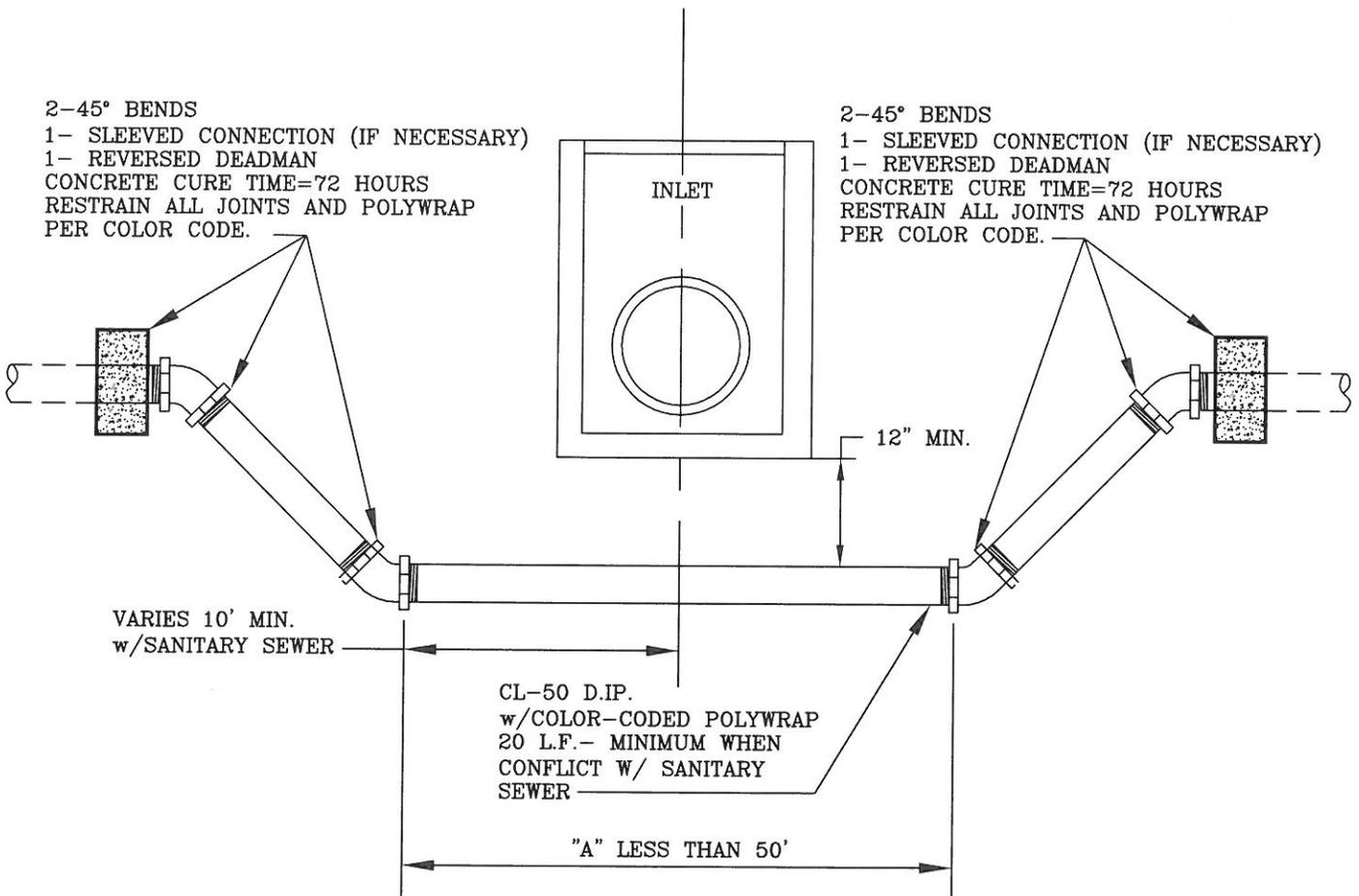
DETAIL INDEX I.D.:  
**PCU GD 12**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL AND TECHNICAL SPECIFICATIONS.
2. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER THE OFFSET PAY-ITEM FOR THE APPLICABLE SIZE OF THE EXISTING POPE TO BE RELOCATED DUE TO CONFLICT; NO SEPARATE PAYMENT SHALL BE MADE UNDER INDIVIDUAL PAY-ITEMS UNLESS "A" IS GREATER THAN 50'.



**PIPE SEPERATION-MINIMUM**



**PROFILE VIEW**

2-45° BENDS  
 1- SLEEVED CONNECTION (IF NECESSARY)  
 1- REVERSED DEADMAN  
 CONCRETE CURE TIME=72 HOURS  
 RESTRAIN ALL JOINTS AND POLYWRAP  
 PER COLOR CODE.

2-45° BENDS  
 1- SLEEVED CONNECTION (IF NECESSARY)  
 1- REVERSED DEADMAN  
 CONCRETE CURE TIME=72 HOURS  
 RESTRAIN ALL JOINTS AND POLYWRAP  
 PER COLOR CODE.

VARIES 10' MIN.  
 w/SANITARY SEWER

CL-50 D.I.P.  
 w/COLOR-CODED POLYWRAP  
 20 L.F.- MINIMUM WHEN  
 CONFLICT W/ SANITARY  
 SEWER

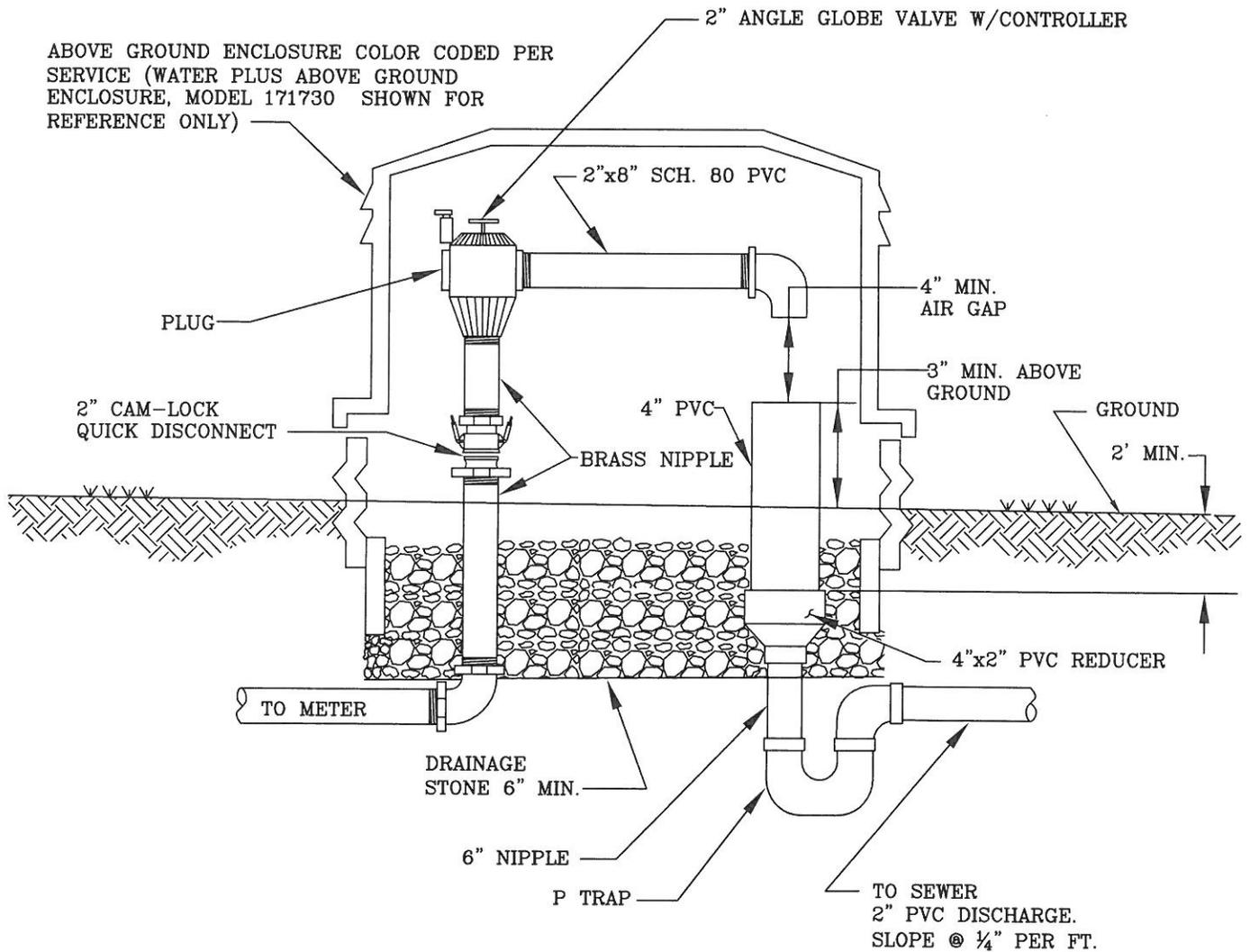
"A" LESS THAN 50'

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**TYPICAL PRESSURE LINE**  
**OFFSET RELOCATION DETAIL**

DETAIL INDEX I.D.:	PCU GD 13
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

**NOTE:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

**AUTOMATIC FLUSHING ASSEMBLY DETAIL**

DETAIL INDEX I.D.:

**PCU GD 14**

DATE:

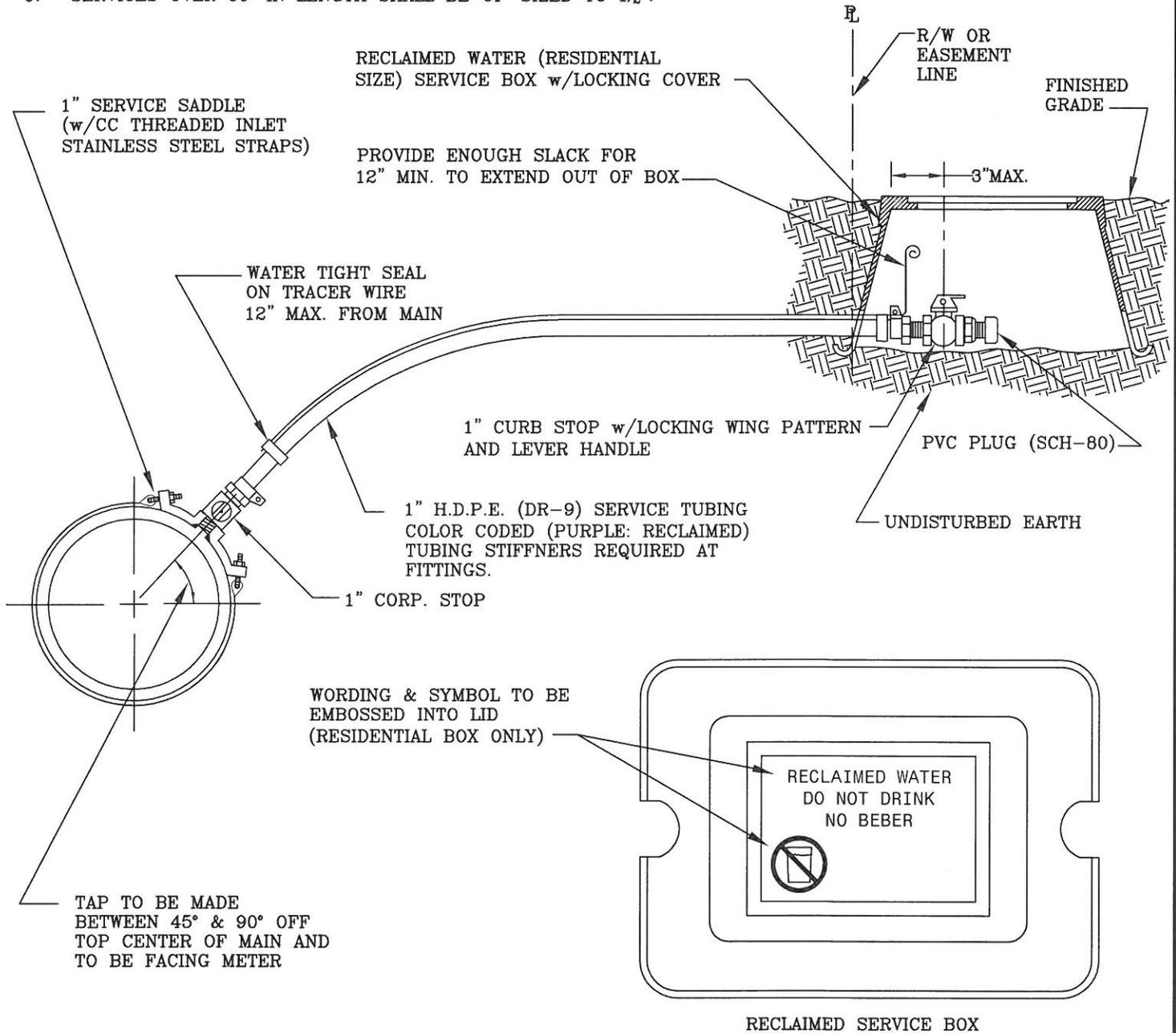
**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS EXCEPT FOR 1" TAPS AND SMALLER ON D.I.P.
4. METER ONLY, TO BE FURNISHED BY P.C.U. (IF REQUIRED).
5. RESIDENTIAL SIZE RECLAIM METER BOX SHALL BE USED FOR UNMETERED SERVICES AND COMMERCIAL SIZE FOR METERED.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
9. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 1½".

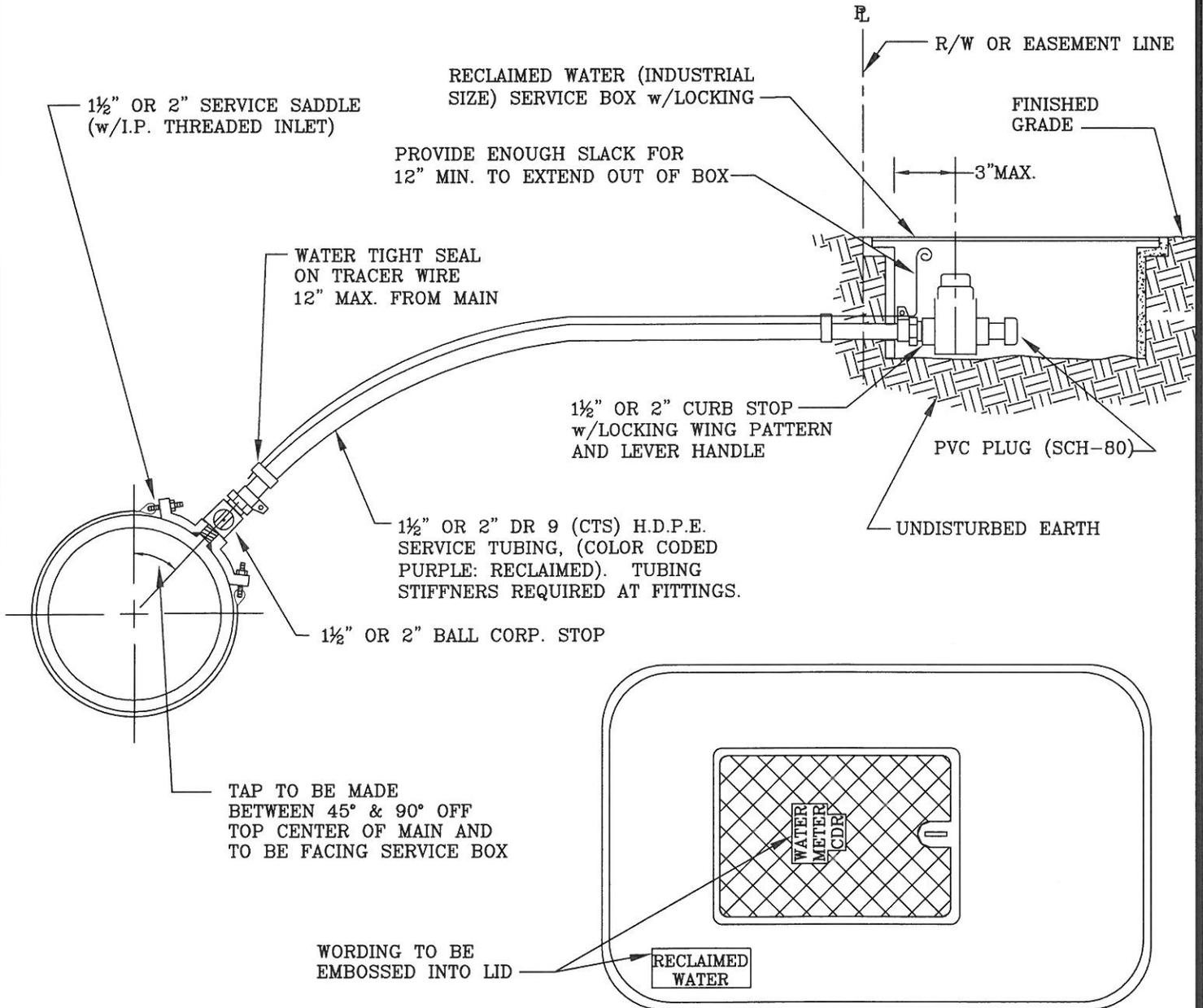


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**1" RECLAIMED SERVICE CONNECTION**  
**(NON-METERED) DETAIL**

DETAIL INDEX I.D.:  
**PCU RD 1**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS.
4. SERVICE BOXES SHALL BE PER P.C.U. APPROVED MATERIAL SPECIFICATIONS.
5. ALL SERVICE BOXES LOCATED WITHIN VEHICULAR AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
6. TRACER WIRE REQUIRED ON ALL SERVICES.
7. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
8. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 2."
9. RESIDENTIAL RECLAIMED SERVICE BOXES SHALL BE USED ON ALL RESIDENTIAL PROPERTY REGARDLESS OF THE LENGTH AND SIZE OF THE SERVICE LINE.

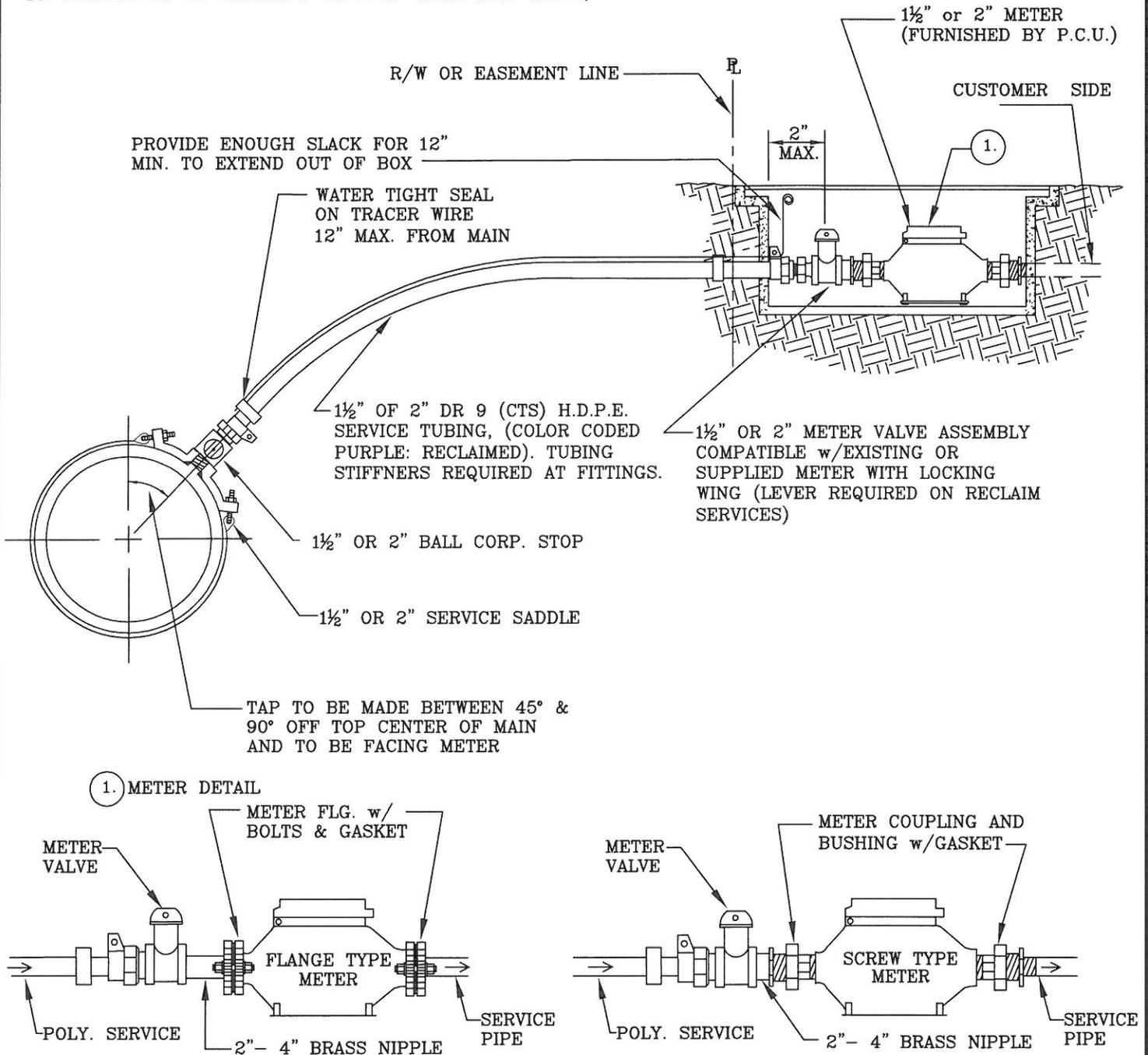


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**1/2" OR 2" RECLAIMED SERVICE CONNECTION**  
**(NON-METERED) DETAIL**

DETAIL INDEX I.D.:	PCU RD 2
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS.
4. METER ONLY, TO BE FURNISHED BY P.C.U.
5. METER BOXES SHALL BE INDUSTRIAL SIZE.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR TRAVEL AREAS SHALL BE H-20ADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
9. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 2".
10. WORDING TO BE EMBOSSED INTO LID "RECLAIMED WATER,"

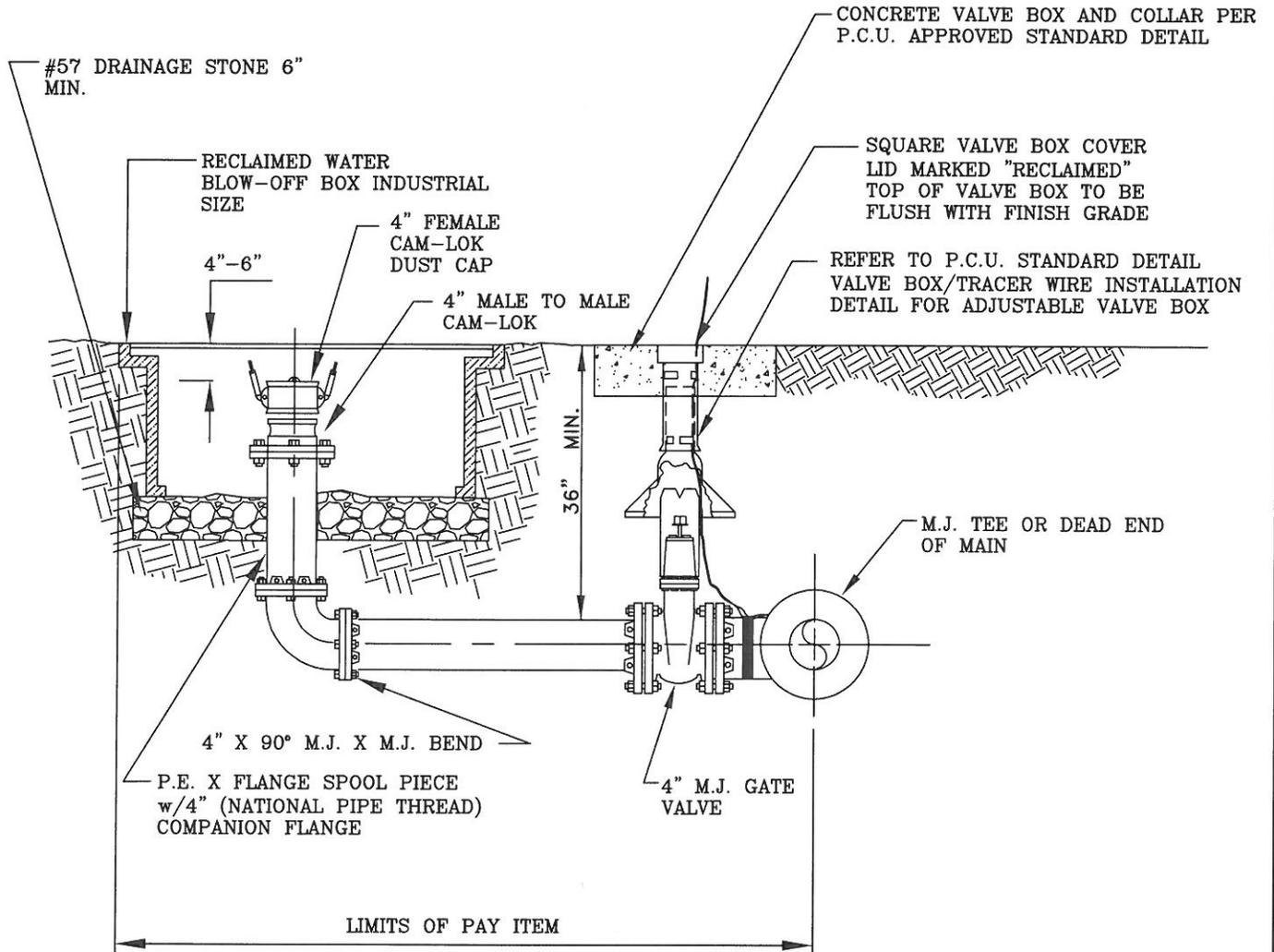


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**1 1/2" OR 2" METERED RECLAIMED WATER SERVICE**  
**DETAIL**

DETAIL INDEX I.D.:  
**PCU RD 3**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BURIED JOINTS SHALL BE RESTRAINED MECHANICAL JOINTS (M.J.).



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**RECLAIMED WATER FLUSHING ASSEMBLY**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU RD 4**

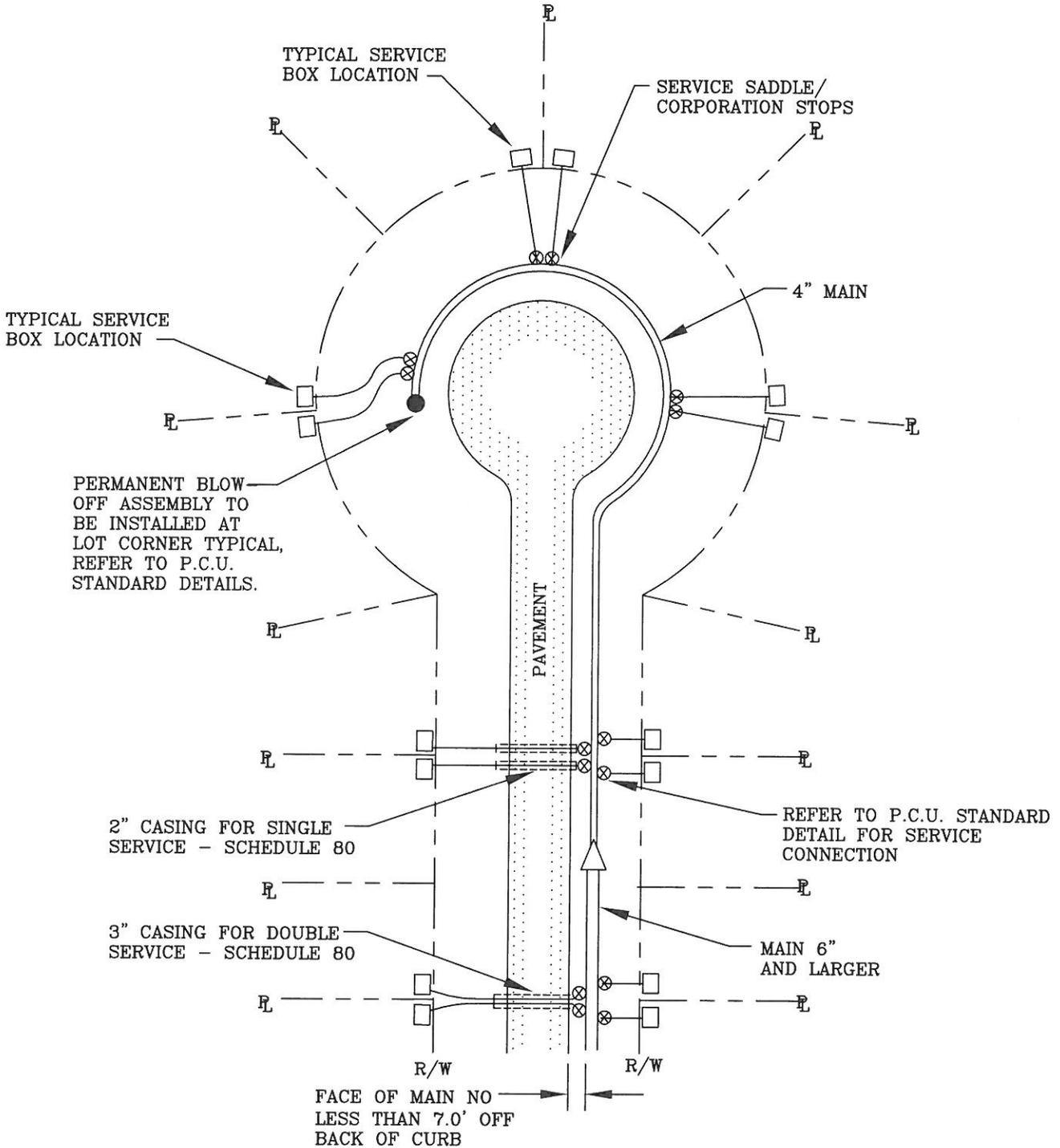
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. NO MORE THAN EIGHT (8) TO TEN (10) METER CONNECTIONS SHALL BE INSTALLED BETWEEN BLOW-OFF AND REDUCTION TO 4" MAIN.
3. CASINGS TO BE EXTENDED BEYOND E.P. OR B.O.C. IN ACCORDANCE WITH P.C.U. STANDARD DETAILS.
4. A 3' HORIZONTAL SEPARATION BETWEEN RECLAIMED AND POTABLE WATER MAINS.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**CUL-DE-SAC LAYOUT - RECLAIMED WATER**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU RD 5**

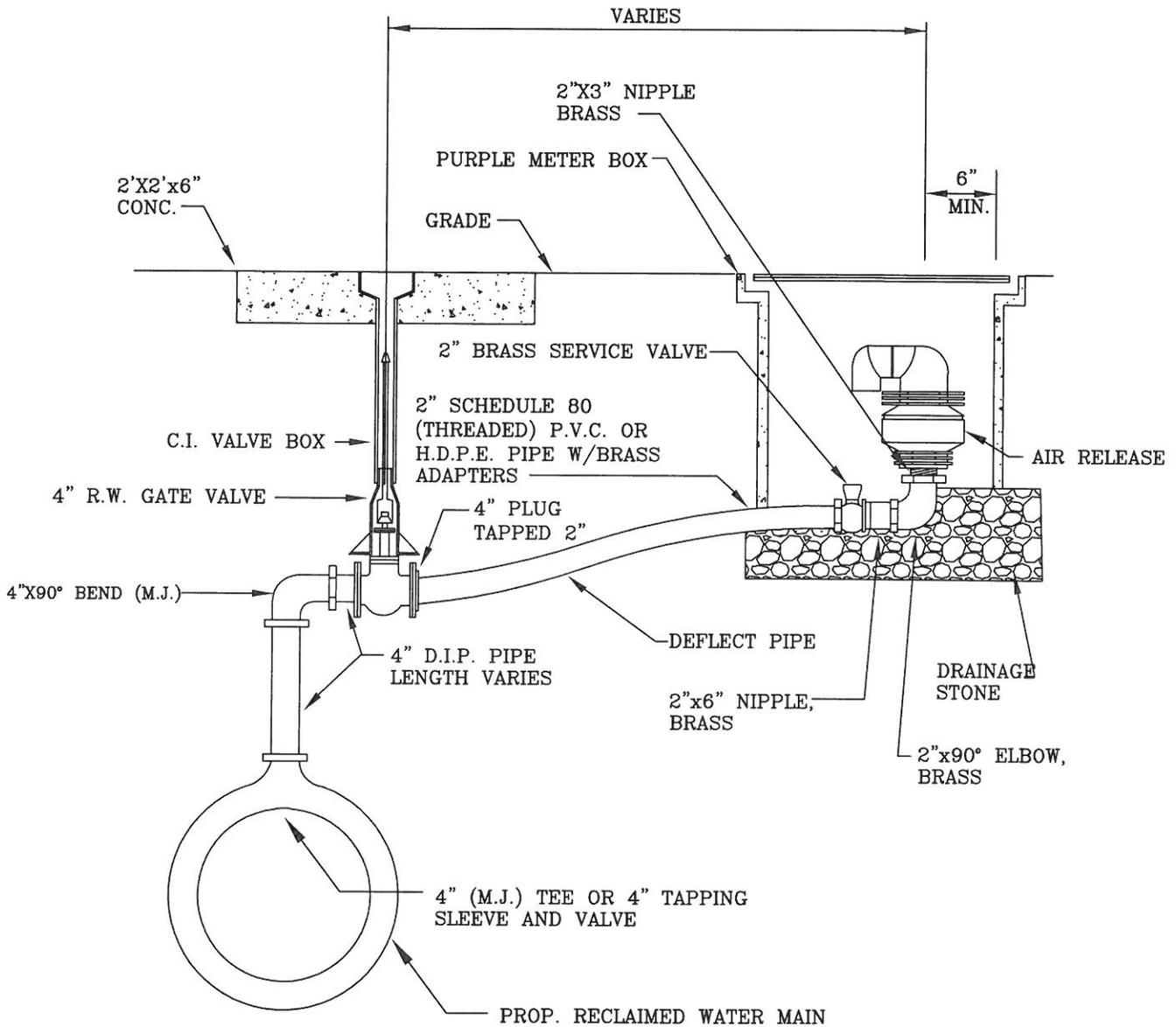
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL JOINTS TO BE RESTRAINED.



**NOTE:**  
 CONTRACTOR SHALL EXERCISE CAUTION  
 WHILE MIXING ROADWAY STABILIZATION

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**2" OFFSET AIR RELEASE ASSEMBLY FOR RECLAIMED**  
**WATER (BELOW GROUND) DETAIL**

DETAIL INDEX I.D.:	
PCU RD 6	
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

# SANITARY SEWER MANHOLE CONSTRUCTION NOTES

## ALL MANHOLES

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. PRECAST MANHOLE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF ASTM C-478 WITH 4000 P.S.I., TYPE II PORTLAND CEMENT.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2 $\frac{1}{2}$ " AND 14 $\frac{1}{2}$ " BELOW THE BOTTOM OF MANHOLE COVER FRAME.
4. ALL KEYED JOINTS SHALL BE SEALED WITH TWO CONTINUOUS RINGS OF FLEXIBLE JOINT SEALANT, OR APPROVED EQUAL.
5. ALL INTERIOR AND EXTERIOR MANHOLE SURFACES SHALL BE PREPARED FOR COATING AND COATED IN ACCORDANCE WITH P.C.U. STANDARD SPECIFICATIONS AND APPROVED MATERIAL SPECIFICATIONS. INSIDE COATING OF MANHOLE MAY BE ELIMINATED IF USING P.C.U. APPROVED LINING SYSTEM.
6. MANHOLE BASE AND BOTTOM SECTION SHALL BE MONOLITHICALLY CAST.
7. ALL PIPE PENETRATIONS IN MANHOLE SHALL BE PRECAST OR CORE DRILLED.
8. MANHOLE COVER SHALL BE EQUIPPED WITH AN INFLOW PROTECTOR.
9. A DROP CONNECTION IS REQUIRED WHERE THE PIPE INVERT IS GREATER THAN 2' ABOVE THE MANHOLE INVERT. FOR DROPS 2' OR LESS A FLUME SHALL BE CONSTRUCTED.
10. ALL MANHOLES 5' IN DIAMETER OR GREATER SHALL REQUIRE THE USE OF A DOUBLE RING AND COVER.
11. ALL MANHOLES WITH A DEPTH OF 14' OR GREATER SHALL BE DESIGNED FOR ANTI-FLOATATION AND SHALL REQUIRE SUBMITTAL OF CALCULATIONS.

## INSIDE DROP MANHOLES

12. THERE SHALL BE NO MORE THAN 2 INSIDE DROPS PER MANHOLE.
13. WHEN USING A 90° BEND ON RISER, IT SHALL BE ROTATED BETWEEN 22 $\frac{1}{2}$ ° AND 45° IN THE DIRECTION OF FLOW AND GROUTED INTO BENCH.
14. ALL FORCE MAIN CONNECTIONS REQUIRE THE USE OF A FORCE MAIN HOOD WITH INSIDE DROP BOWL.
15. ALL INSIDE DROPS SHALL BE CONSTRUCTED USING P.V.C. SDR-35 PIPE.

## OUTSIDE DROP MANHOLES

16. OUTSIDE DROP PIPING SHALL BE CONSTRUCTED USING THE SAME MATERIAL AS THE MAIN LINE.

TABLE

DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

MANHOLE CONSTRUCTION NOTES

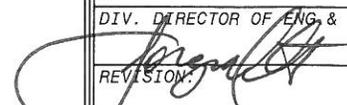
DETAIL INDEX I.D.:

PCU SD 1

DATE: **SEPTEMBER/2012**

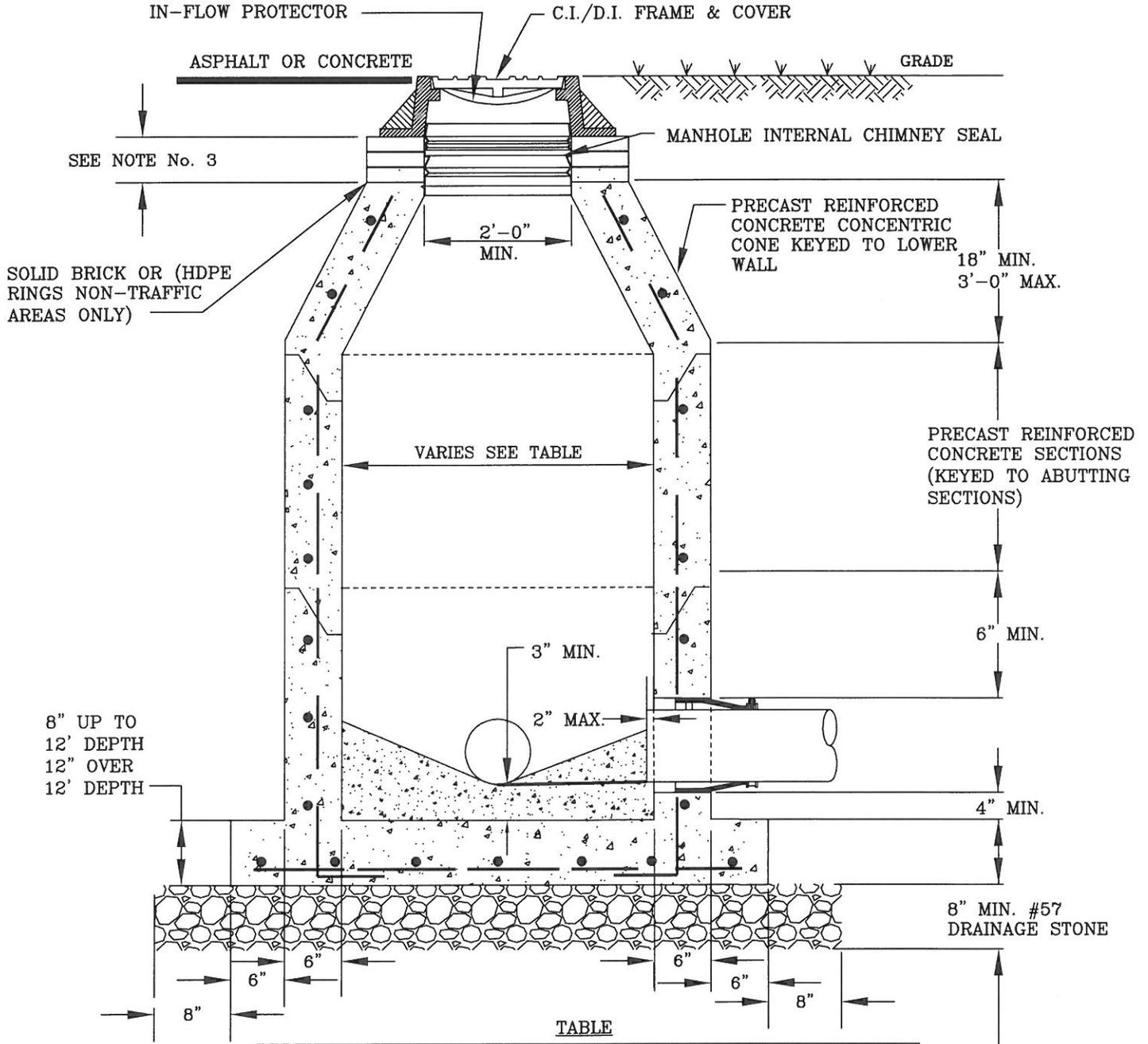
DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:



**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIALS SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER FRAME.



**TABLE**

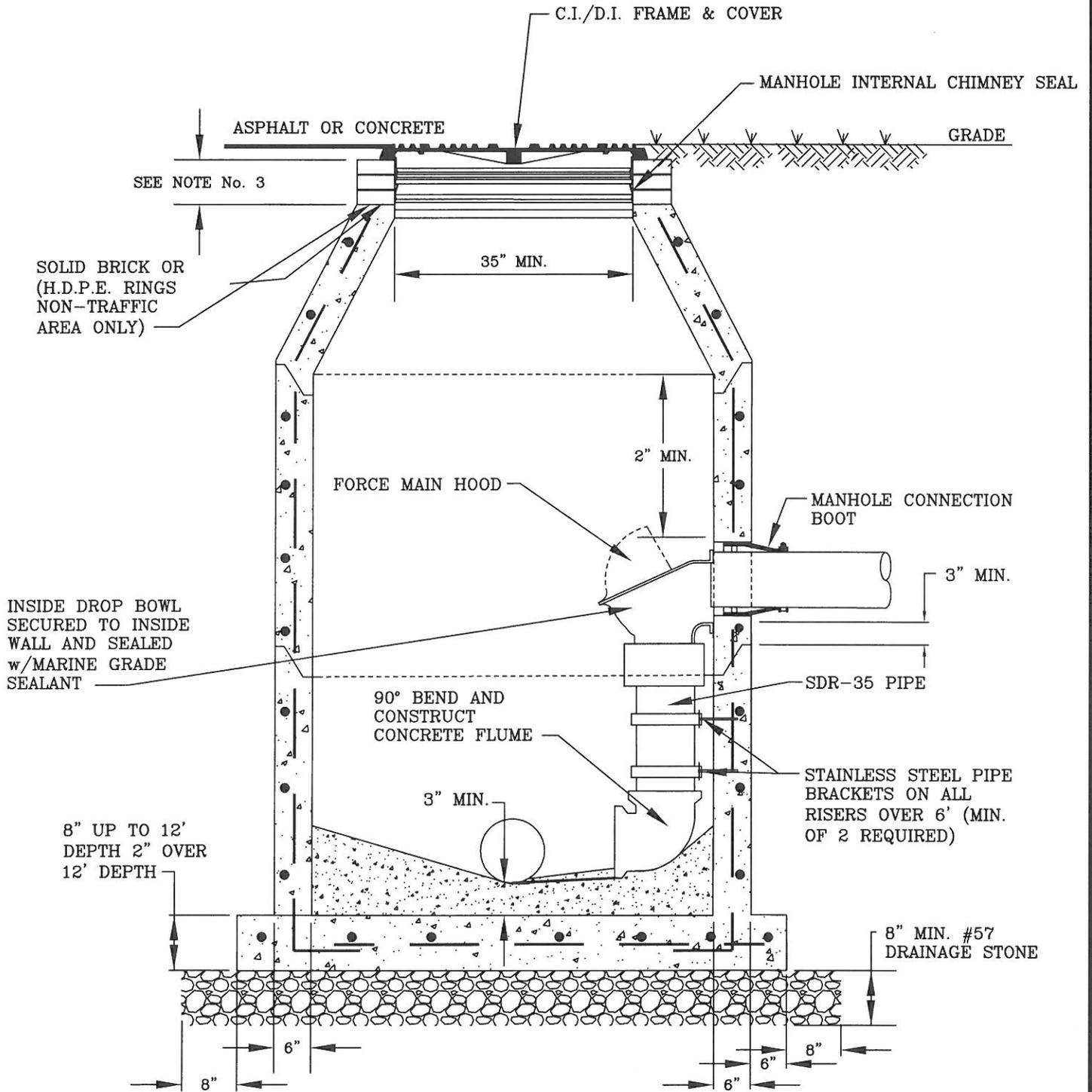
DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**STANDARD MANHOLE (PRE-CAST) DETAIL**

DETAIL INDEX I.D.:  
**PCU SD 1a**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER FRAME.



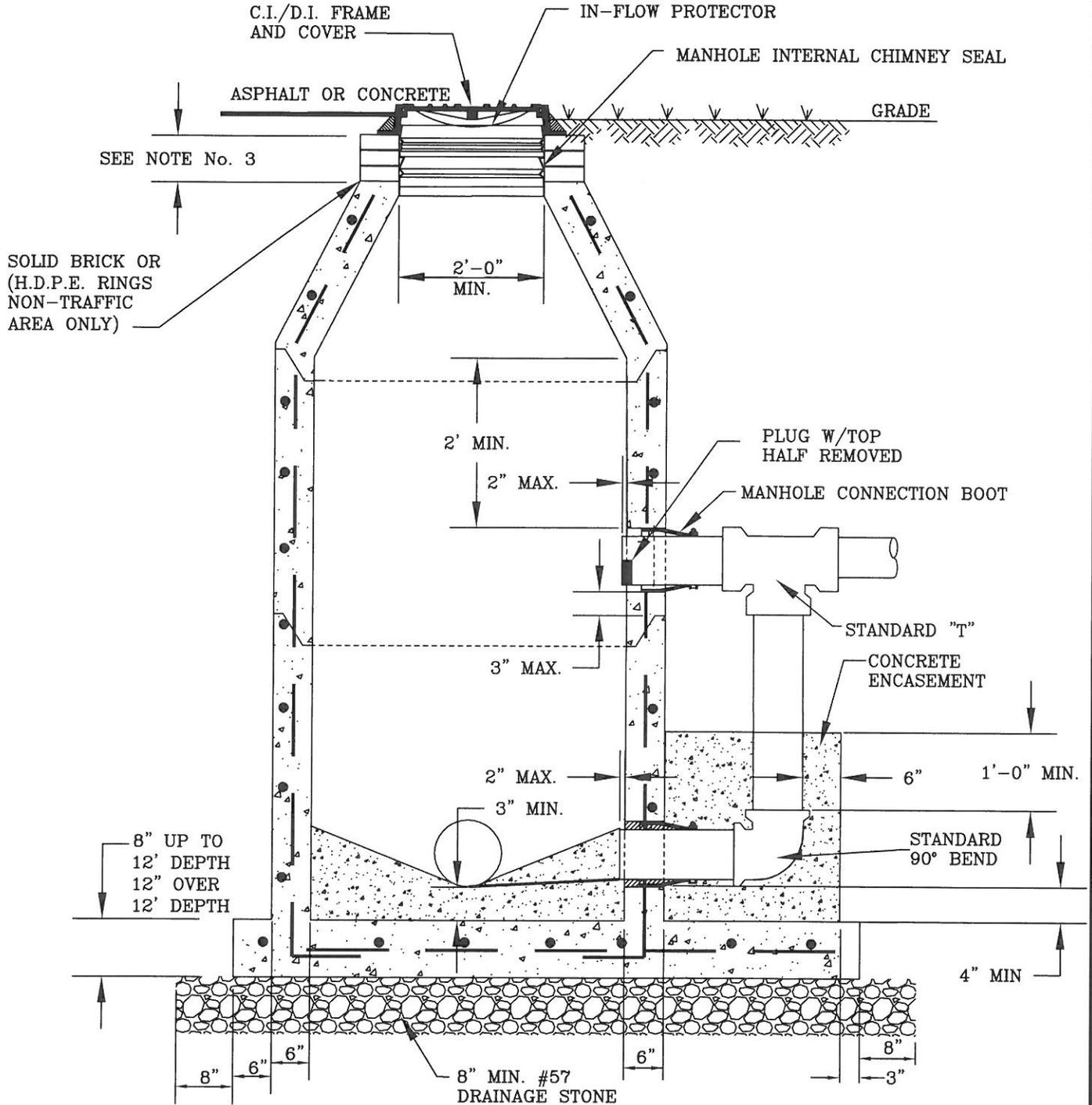
**PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE  
(D.E.I.)**

**INSIDE DROP MANHOLE CONNECTION DETAIL**

DETAIL INDEX I.D.:	PCU SD 1b
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENV. & TECH. SUPPORT	
REVISION:	<i>[Signature]</i>

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

OUTSIDE DROP MANHOLE CONNECTION DETAIL

DETAIL INDEX I.D.:

PCU SD 1c

DATE: **SEPTEMBER/2012**

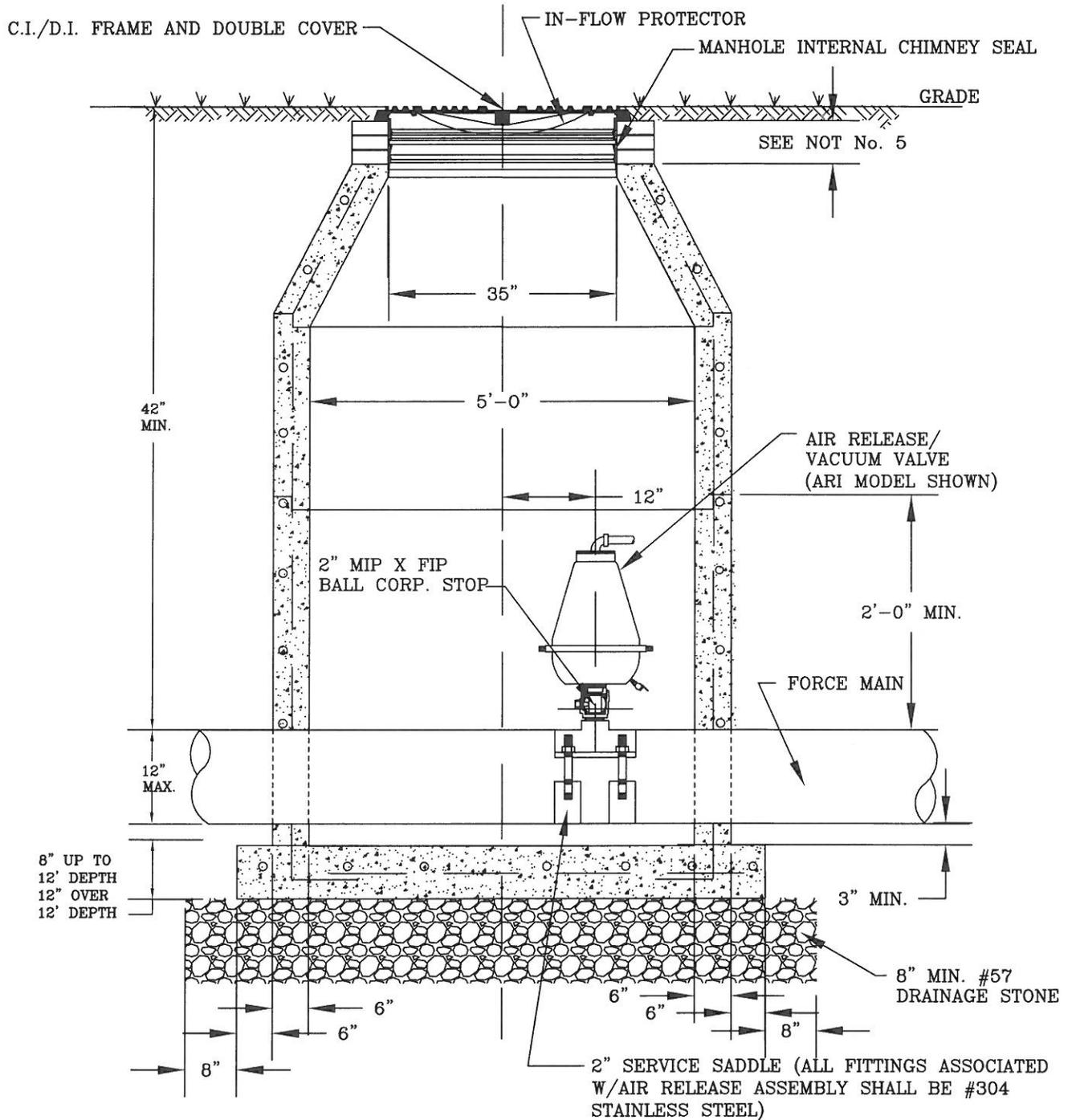
DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:



**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. SEWER AIR RELEASE/VACUUM VALVE SHALL BE LOCATED AT THE HIGH ELEVATIONS ON THE FORCE MAIN.
4. LID SHALL INCLUDE HOLE OPENINGS TO ALLOW AIR RELEASE VALVE VENTING/
5. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT IF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER FRAME.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**SEWER AIR RELEASE/AIR VACUUM VALVE**  
**IN MANHOLE (12" PIPE OF LESS) DETAIL**

DETAIL INDEX I.D.:

**PCU SD 2**

DATE: **SEPTEMBER/2012**

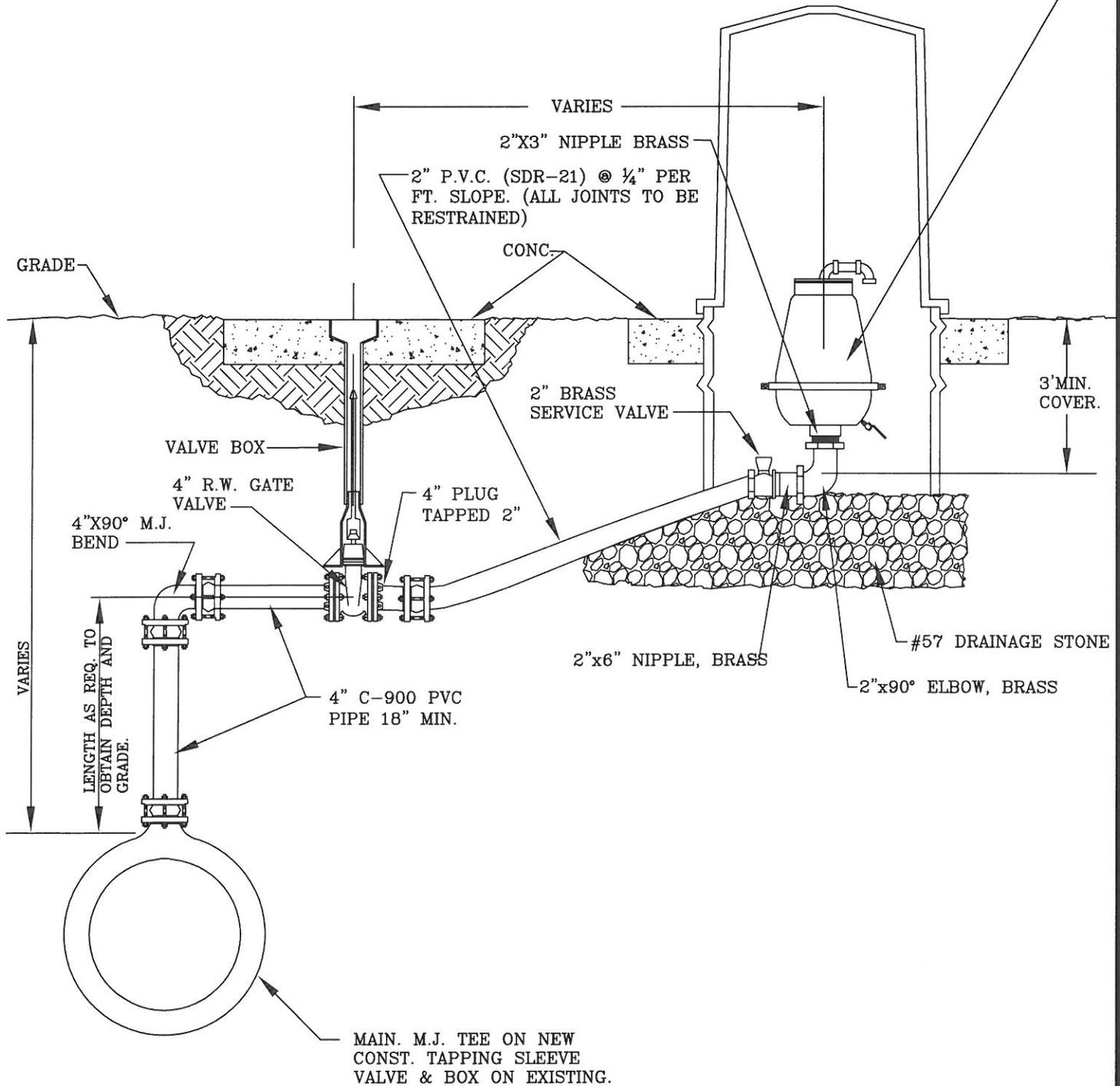
DIV. DIRECTOR OF ENG & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SUPPORT/RESTRAINT MECHANISM FOR AIR RELEASE/AIR VACUUM VALVE SHALL REQUIRE APPROVAL BY COUNTY ENGINEER PRIOR TO INSTALLATION.

AIR RELEASE/AIR VACUUM VALVE AS SPECIFIED IN CONSTRUCTION PLANS. (A.R.I.MODEL SHOWN)

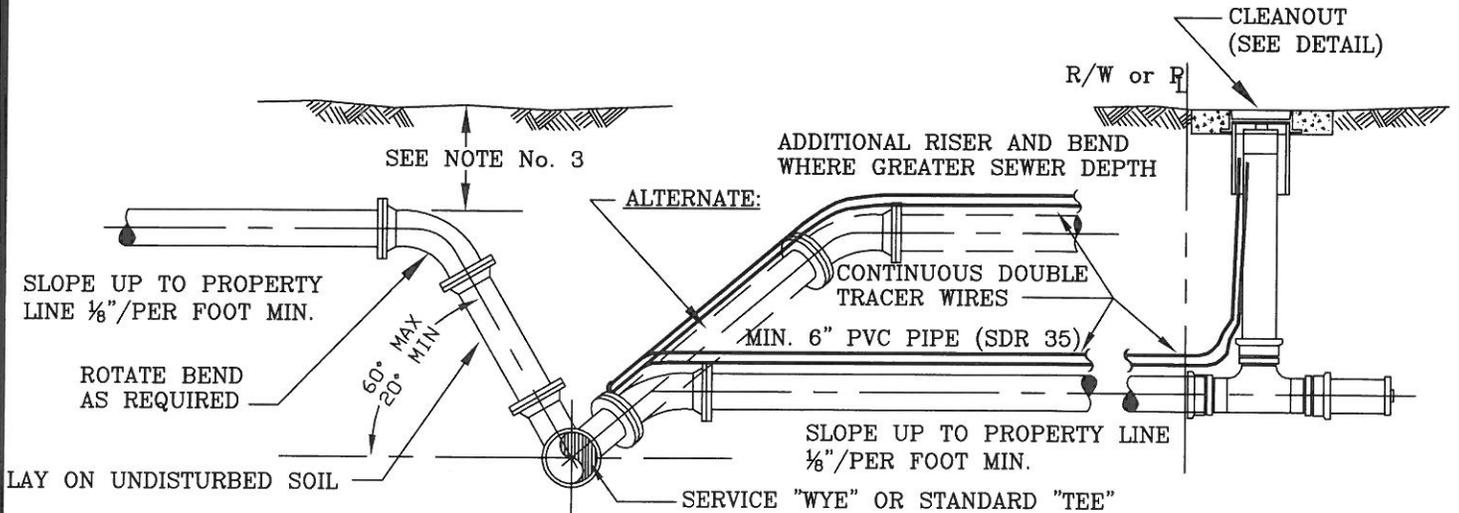


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**OFFSET AIR RELEASE ASSEMBLY**  
**FOR 4"-12" AND LARGER SANITARY SEWER**  
**(ABOVE GROUND) DETAIL**

DETAIL INDEX I.D.:  
**PCU SD 3**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

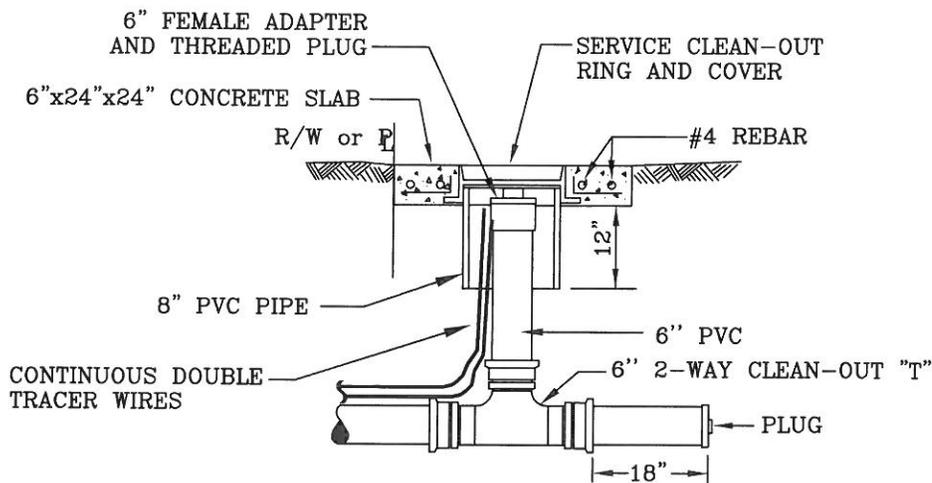
**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SERVICE CONNECTIONS MAY NOT HAVE BEEN SHOWN ON PLAN/PROFILE SHEETS. SERVICE CONNECTION LOCATIONS SHALL BE DETERMINED IN THE FIELD AND CONNECTIONS CONSTRUCTED ACCORDANCE WITH P.C.U. APPROVED TECHNICAL SPECIFICATIONS, MATERIALS MANUAL & THESE DETAILS. FOR NEW DEVELOPMENT, THE SERVICE CONNECTION SHALL BE CONSTRUCTED IN THE CENTER OF THE LOT.
3. MINIMUM DEPTH UNDER ROADWAY 42" MINIMUM DEPTH AT PROPERTY LINE 36" (OR AS REQUIRED FOR SERVICE).
4. SERVICE LINES SHALL BE A MIN. OF 6" TO ALL RESIDENCES.
5. NO DOUBLE WYE UNITS SHALL BE PERMITTED ON SERVICE LINE. ALL RESIDENCES SHALL BE SERVED BY A SINGLE SERVICE.
6. RISERS SHALL BE INSTALLED ON ALL WYES (BOTH PRESENT & FUTURE SERVICES).
7. RISERS SHALL PREFERABLY FOLLOW SLOPE OF BANK TO REQUIRED DEPTH.
8. THE TRACER WIRE SHALL START AT THE CLEAN-OUT AND RUN ALONG THE SEWER SERVICE TO THE MAIN AND BACK TO THE CLEAN-OUT AS ONE CONTINUOUS WIRE.



**SERVICE CONNECTION - DETAIL**

SCALE: NONE



**CLEAN-OUT DETAIL**

SCALE: NONE

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**SEWER SERVICE CONNECTION**  
**AND CLEAN-OUT DETAIL**

DETAIL INDEX I.D.:

**PCU SD 4**

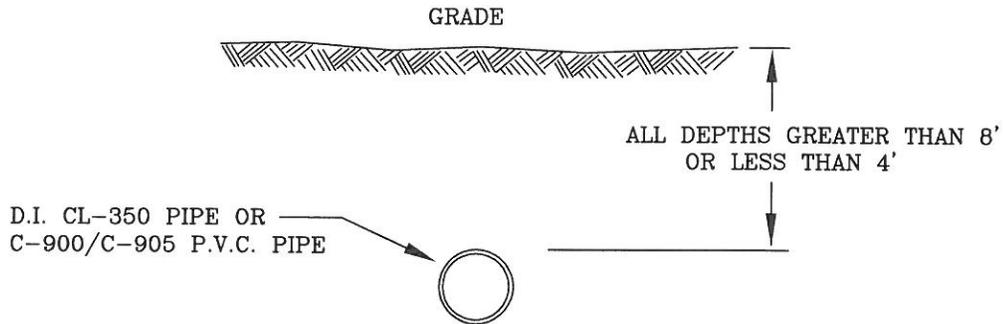
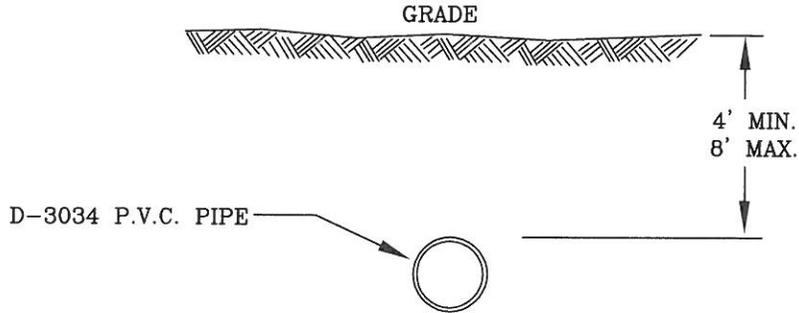
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG & TECH. SUPPORT

REVISION:

**NOTE:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**DEPTH LIMITATIONS OF SANITARY SEWER**  
**PIPE DETAIL**

DETAIL INDEX I.D.:

**PCU SD 5**

DATE:

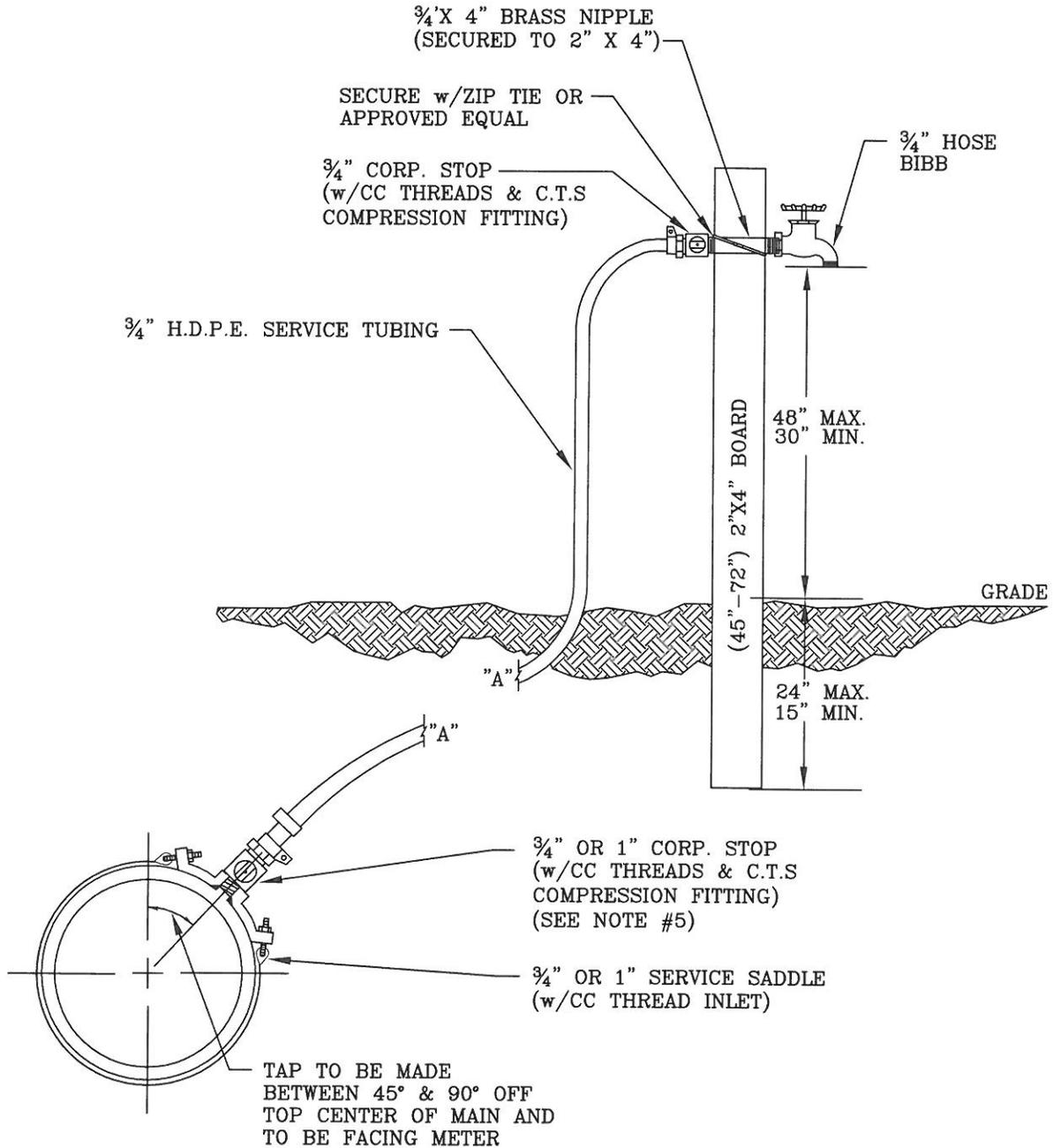
**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN LIMITS OF ROADWAY BUT ROUTED TO ROADWAY SHOULDER (NON-TRAFFIC AREA)
3. CONTRACTOR SHALL UTILIZE SERVICE LINE CONNECTIONS, WHERE POSSIBLE.
4. WHEN UTILIZING TEMPORARY SAMPLE POINT AS A SERVICE CONNECTION, THEN A TRACER WIRE IS REQUIRED.
5. SAMPLE POINTS TO BE ABANDONED AFTER USE SHALL BE FITTED WITH A  $\frac{3}{4}$ " CC x F.I.P. CORP. STOP.
6. REMOVE ALL PIPE AND ABOVE GROUND FITTINGS AND PLUG CORP. STOP WITH  $\frac{3}{4}$ " PLUG.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**TEMPORARY SAMPLING POINT**  
**DETAIL**

DETAIL INDEX I.D.:

PCU WD 1

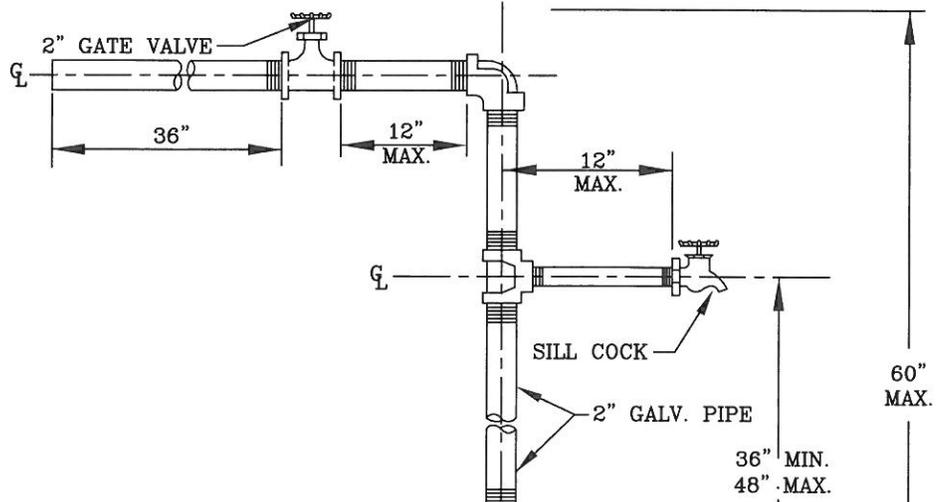
DATE: SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. A VALVE KEY EXTENSION SHALL BE REQUIRED ON VALVES WITH OPERATOR NUT OVER 3' DEEP.
3. INSTALL AND REMOVE TEMP. FLUSHING AND SAMPLING ASSEMBLY AT 2" COUPLING.
4. INSTALL 2" BRASS PLUG UPON CLEARANCE OF THE P.C. HEALTH DEPARTMENT.
5. RESTRAIN 2" PIPE UP TO VALVE



**TEMPORARY FLUSHING & SAMPLING ASSEMBLY**

CONCRETE VALVE BOX COLLAR  
PER P.C.U. STANDARD DETAIL

REFER TO P.C.U. STANDARD  
DETAIL FOR VALVE BOX  
INSTALLATION

SEE RESTRAINED JOINT  
TABLE FOR RESTRAINED  
LENGTH.

JOINT RESTRAINT

2" MALE ADAPTER

2" R.W. GATE VALVE

P.C.U. APPROVED METER BOX

6"-12"

6"  
MIN.

30"  
MIN.

4"-6"

60"  
MAX.

36"  
MIN.  
48"  
MAX.

2" COUPLING, BRASS

#57 DRAINAGE STONE  
6" MIN. DEPTH

2" NIPPLE, BRASS

2"x 90° ELBOW, BRASS

18"-24" 2" NIPPLE, BRASS

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**2" PERMANENT WATER BLOW-OFF**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU WD 2**

DATE:

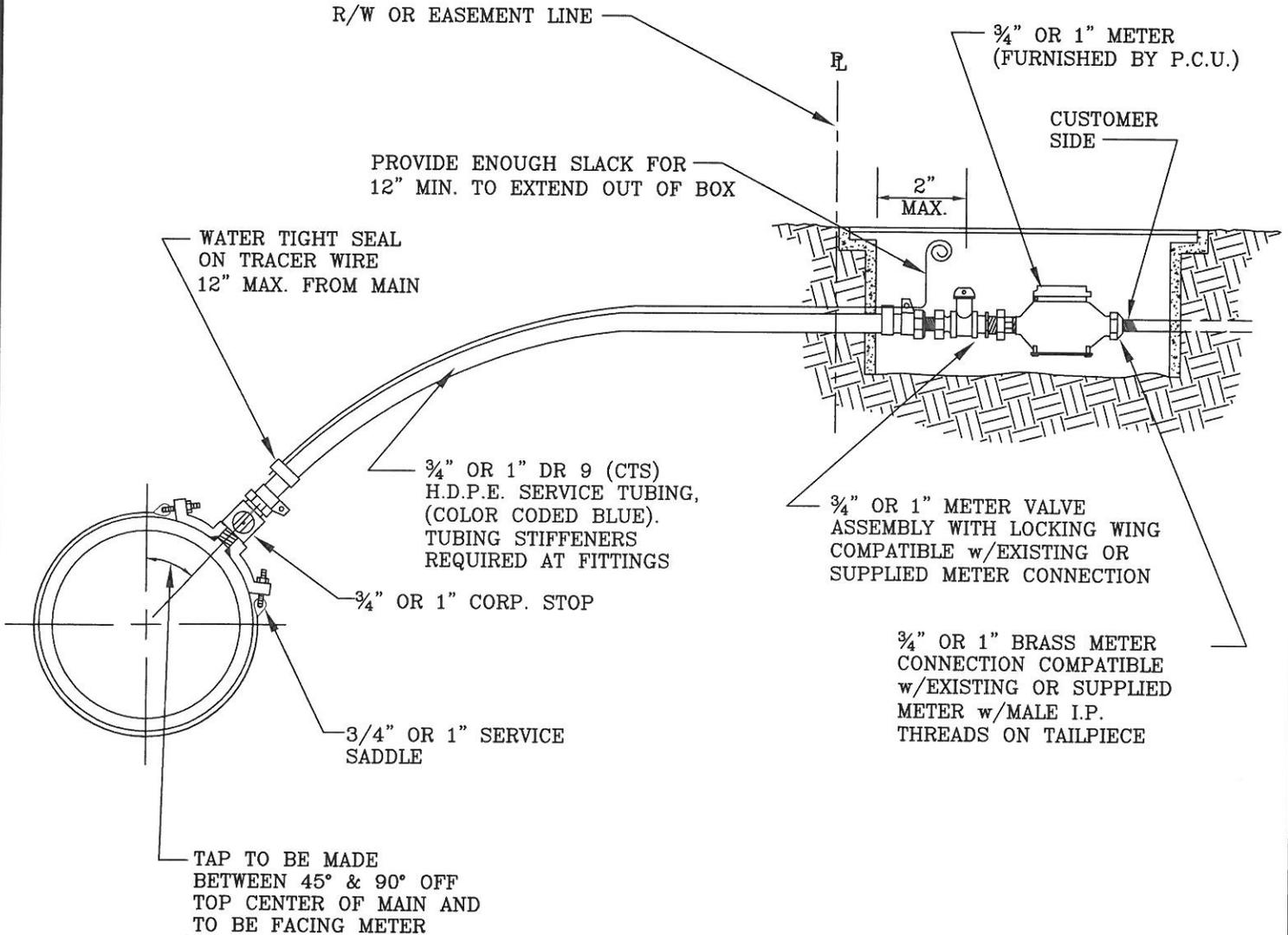
**SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS EXCEPT FOR D.I.P. 1" TAPS AND SMALLER.
4. METER ONLY TO BE FURNISHED BY P.C.U.
5. METER BOXES SHALL BE RESIDENTIAL SIZE.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR TRAVEL AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 1".
9. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
10. METERS WITH DUAL CHECKS SHALL UTILIZE A METER BOX WITH OFFSET MOUSE HOLES.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**

3/4" OR 1" POTABLE WATER SERVICE CONNECTION  
 DETAIL

DETAIL INDEX I.D.:  
 PCU WD 3

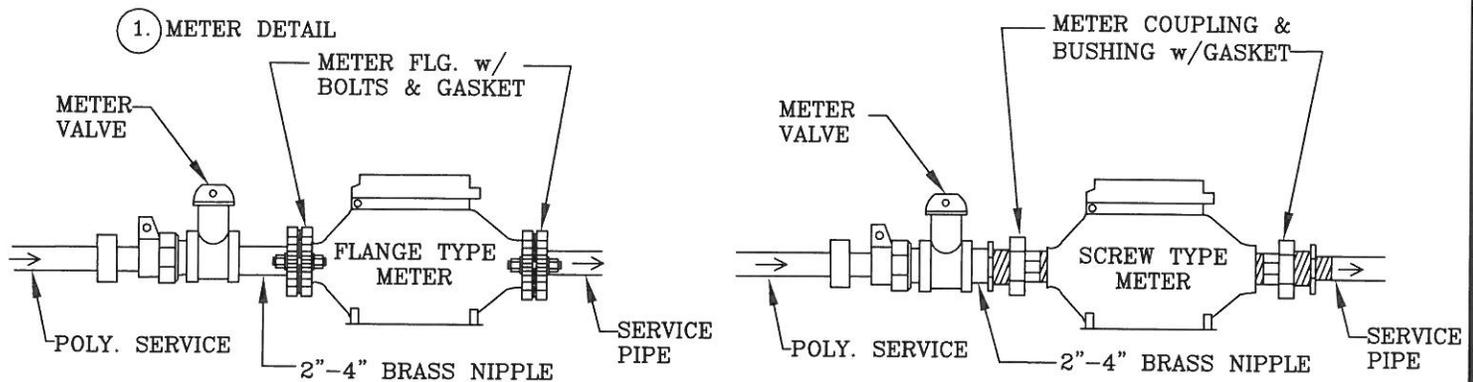
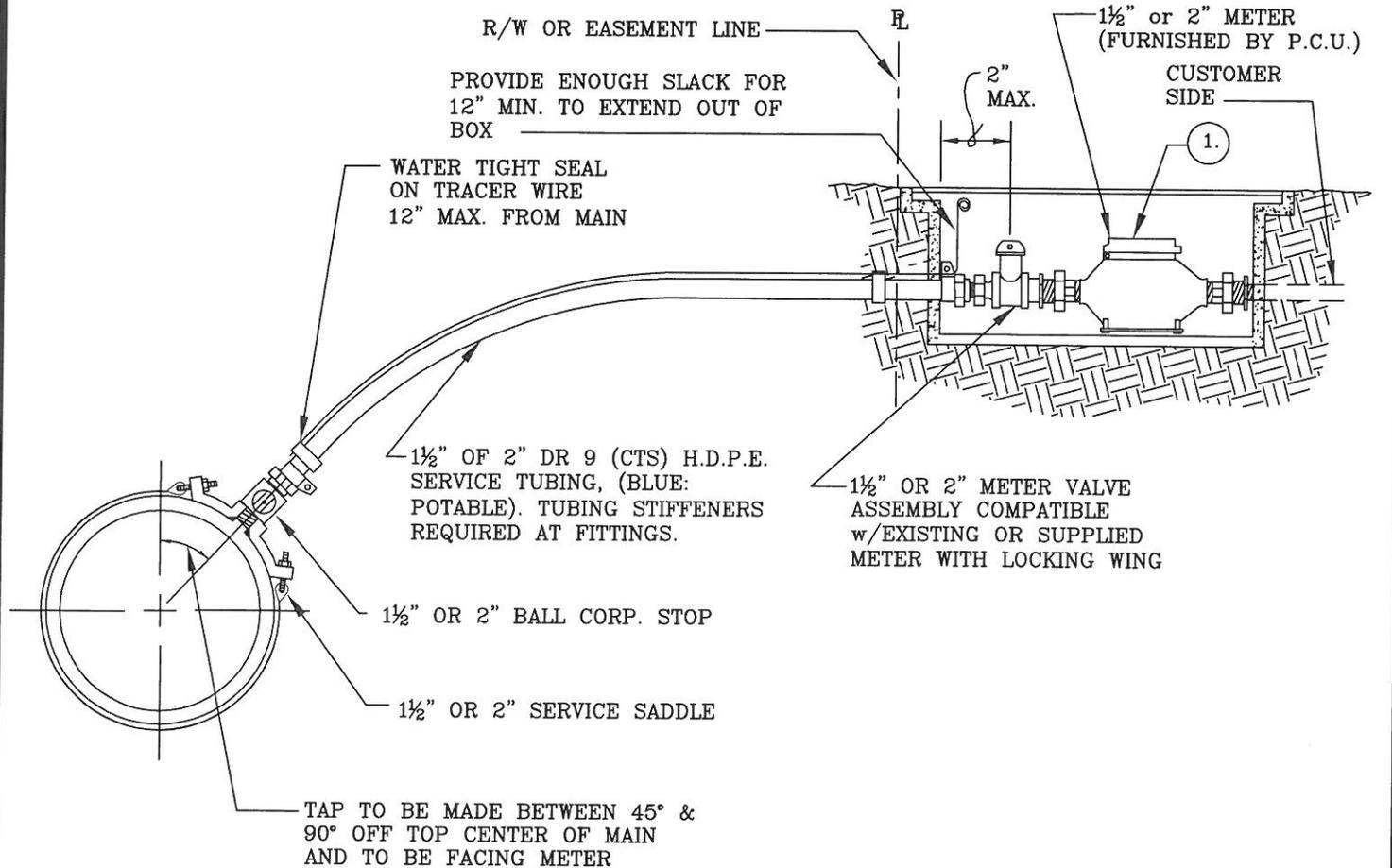
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS.
4. METER ONLY, TO BE FURNISHED BY P.C.U.
5. METER BOXES SHALL BE INDUSTRIAL SIZE.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR TRAVEL AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 2".
9. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.

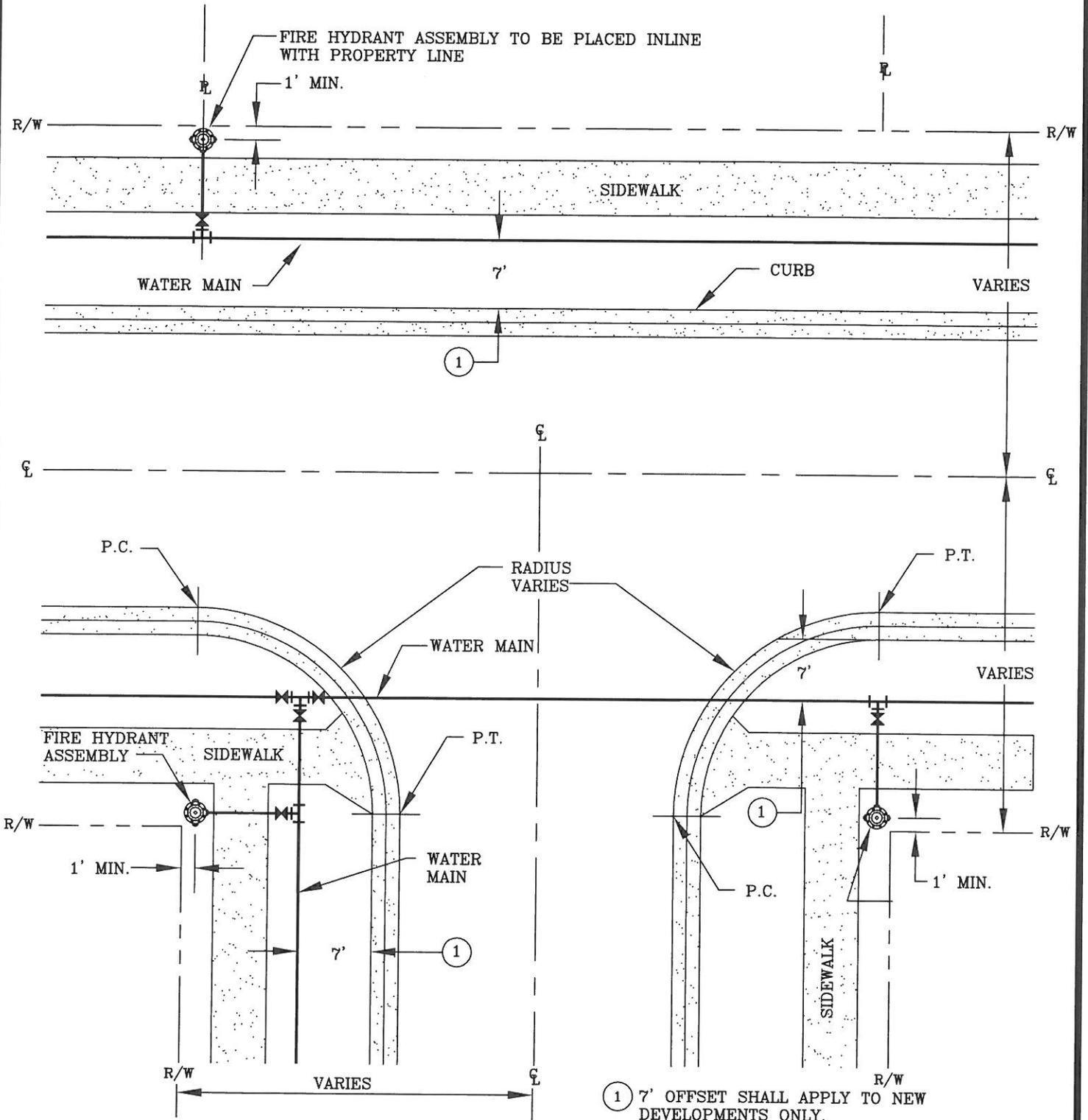


**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**1 1/2" OR 2" POTABLE WATER SERVICE CONNECTION**  
**DETAIL**

DETAIL INDEX I.D. :  
**PCU WD 4**  
 DATE: **SEPTEMBER/2012**  
 DIV. DIRECTOR OF ENG. & TECH. SUPPORT  
 REVISION: *[Signature]*

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. MATERIAL SPECIFICATION MANUAL.
2. HYDRANTS TO BE SET PARALLEL TO CURVE AT P.T. OR P.C. 1' MIN. FROM R/W LINE.



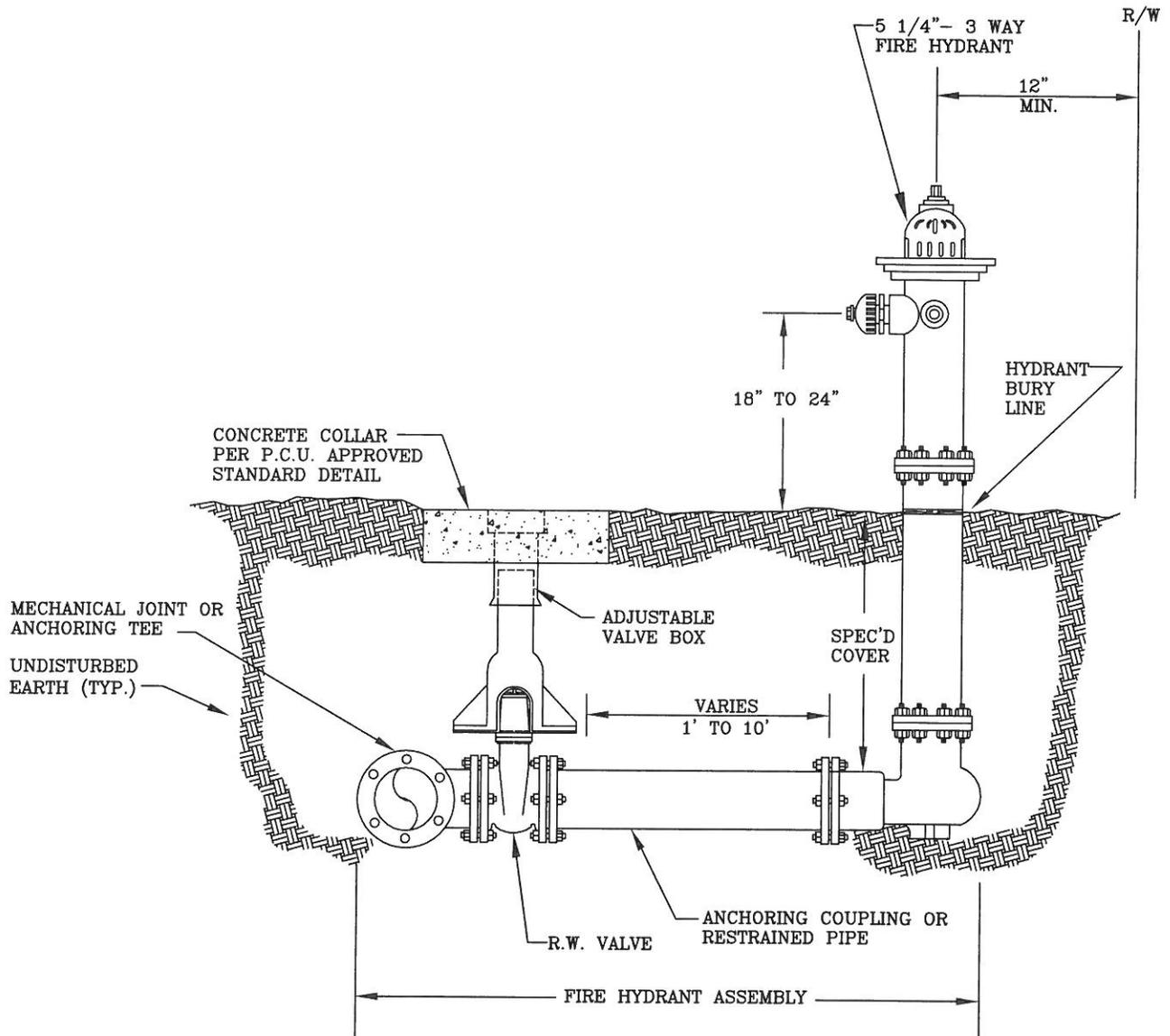
① 7' OFFSET SHALL APPLY TO NEW DEVELOPMENTS ONLY.

**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**TYPICAL FIRE HYDRANT LOCATIONS**  
**DETAIL**

DETAIL INDEX I.D.:	PCU WD 5
DATE:	SEPTEMBER/2012
DIV. DIRECTOR OF ENG. & TECH. SUPPORT	<i>[Signature]</i>
REVISION:	

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BOLTED FITTINGS SHALL BE POLYETHYLENE WRAPPED, COLOR CODED PER SERVICE.
3. VALVE BOX(ES) SHALL HAVE A CONCRETE COLLAR PER P.C.U. APPROVED STANDARD DETAIL.
4. IF FIRE HYDRANT IS INSTALLED WITHIN AN OFF-STREET VEHICULAR AREA, AND IS LOCATED WITHIN 10 FT. OR LESS OF A VEHICULAR USE AREA, GUARD POSTS (BOLLARDS) SHALL BE INSTALLED PER P.C.U. APPROVED STANDARD DETAIL UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PINELLAS COUNTY UTILITIES ENGINEERING OR THEIR AUTHORIZED REPRESENTATIVE.
5. IF DISTANCE BETWEEN VALVE AND HYDRANT IS 10 FT. OR GREATER, AN ADDITIONAL VALVE SHALL BE INSTALLED FOR CONTROL OF HYDRANT UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PINELLAS COUNTY UTILITIES ENGINEERING OR THEIR AUTHORIZED REPRESENTATIVE.
6. HYDRANT SHALL BE INSTALLED PLUMB.
7. HYDRANT SHALL BE PAINTED UPON INSTALLATION PER P.C.U. APPROVED MATERIAL SPECIFICATIONS.
8. ALL CHAINS SHALL BE REMOVED AFTER INSTALLATION.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**FIRE HYDRANT ASSEMBLY**  
**DETAIL**

DETAIL INDEX I.D.:

**PCU WD 6**

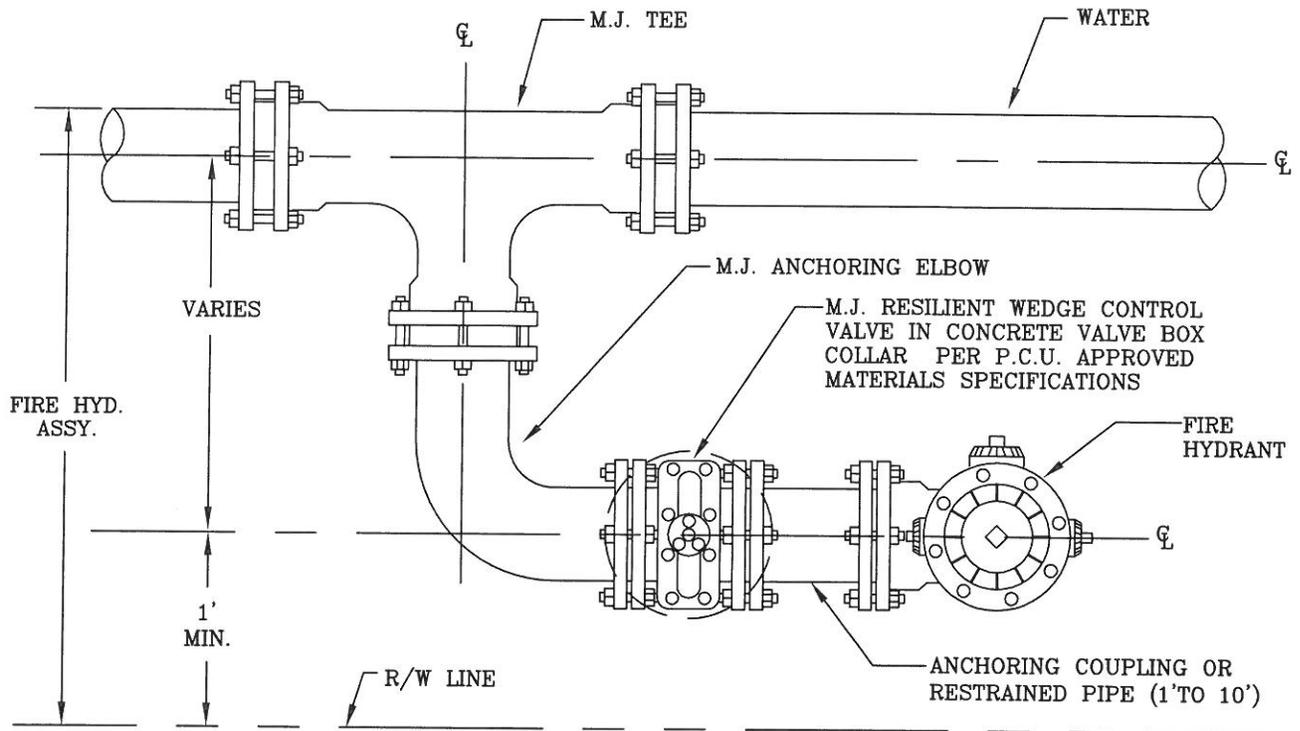
DATE: **SEPTEMBER/2012**

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BOLTED FITTINGS SHALL BE POLYETHYLENE WRAPPED, COLOR CODED PER SERVICE.
3. VALVE BOX(ES) SHALL HAVE A CONCRETE COLLAR PER P.C.U. APPROVED STANDARD DETAIL.
4. HYDRANT SHALL BE INSTALLED PLUMB.
5. HYDRANT SHALL BE PAINTED AFTER INSTALLATION PER P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
6. TEE MAY BE ROTATED TO OBTAIN PROPER BURY ON FIRE HYDRANT.
7. ANCHORING ELBOW MAY BE SWITCHED (LONG vs. SHORT END) AND ROTATED TO SET FIRE HYDRANT IN OPPOSITE DIRECTION.
8. ANCHORING COUPLINGS MAY BE REPLACED WITH RESTRAINED PIPE.
9. ALL CHAINS SHALL BE REMOVED AFTER INSTALLATION.
10. IF FIRE HYDRANT IS INSTALLED WITHIN AN OFF-STREET VEHICULAR AREA, AND IS LOCATED WITHIN 10 FT. OR LESS OF A VEHICULAR USE AREA, GUARD POSTS (BOLLARDS) SHALL BE INSTALLED PER P.C.U. APPROVED STANDARD DETAIL UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF P.C.U. ENGINEERING OR THEIR REPRESENTATIVE.



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**PARALLEL FIRE HYDRANT**  
**DETAIL**

DETAIL INDEX I.D.:

PCU WD 7

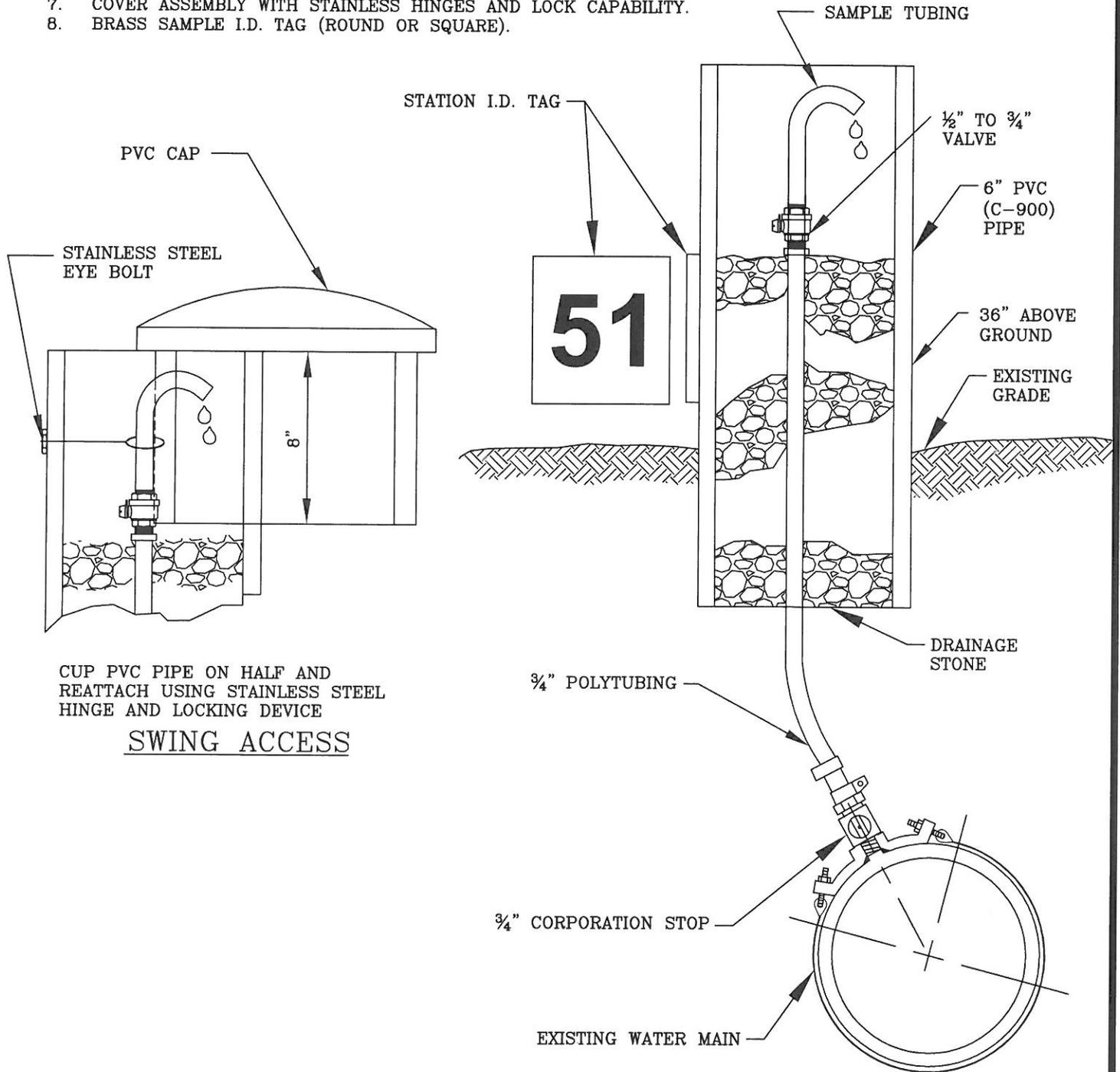
DATE: SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

**NOTE:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH P.C.U. APPROVED MATERIALS SPECIFICATION MANUAL.
2. 3/4"x2"x8" TAPPING SADDLE AND 3/4" CORPORATION VALVE INSTALLED AT 22 1/2°.
3. ATTACH 3/4" POLY VINYL TUBING.
4. PEA GRAVEL FOR STABILITY AND EYEBOLT FOR TUBING.
5. 1/2" TO 3/4" COMPRESSION VALVE CAPABLE TO CONNECT WITH TUBING.
6. 1/2" STAINLESS STEEL GOOSE NECK FOR SAMPLING.
7. COVER ASSEMBLY WITH STAINLESS HINGES AND LOCK CAPABILITY.
8. BRASS SAMPLE I.D. TAG (ROUND OR SQUARE).



**PINELLAS COUNTY**  
**DEPARTMENT OF ENVIRONMENT AND INFRASTRUCTURE**  
**(D.E.I.)**  
**WATER QUALITY**  
**SAMPLING STATION DETAIL**

DETAIL INDEX I.D.:

PCU WD 8

DATE: SEPTEMBER/2012

DIV. DIRECTOR OF ENG. & TECH. SUPPORT

REVISION:

*[Signature]*